THE

NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE, HORTICULTURE, AND KINDRED ARTS.

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HAYING IN JUNE.

A LARGE part of the haying in southern and eastern Massachusetts will be completed before the close of this month, and the farmers all over New England will be busily engaged in it, and we wish to call the attention of our brother farmers to the importance of cutting grass before the seed is ripe. Farmers differ in their opinion and practice upon this subject. The opinion is becoming very general among milk raisers, that grass cut while it is green and succulent, and before the stalk has been changed into woody fibre, will yield much more of that nourishment upon which the flow of milk depends, than the same grass after the seed has ripened. All admit that ripe hay is not itself so nutritious, but many claim that the ripened seed makes up for the depreciation in the hay, and say that for working horses and oxen ripe hay is the best.

This is a question of great importance, and should be well examined. Not only is the value of the present crop involved, but the effect upon the roots of the grass, and the future crops also. When grass is cut while green, and properly cured, it retains the essential character of grass. The water is evaporated, but the dried and condensed juices remain in the tender fibre, and when received into the stomach of the animal, are easily softened and digested. But it is questionable, whatever may be said to the contrary, if woody fibre is ever digested; and in our method of cutting and making and feeding hay, most of the seed is shaken out and lost before it reaches the cattle. If hay were all cut and moistened before feeding, the cattle would get more of the seed than they do now.

Large, over-ripe herdsgrass is very unpalatable to cattle, and really contains very little nutriment. A few years since we had occasion to purchase a load of hay for horse feed. The farmer of whom we purchased it sent us a load of pure, clean, bright herdsgrass, of large growth, which he called number one hay. But the horse, which was the party most interested in the matter, differed with him in opinion. He was very reluctant to eat it, and in spite of his usual amount of grain, grew poor upon it, and we were glad when it was gone. This is a very common experience among horse-keepers. It is frequently remarked that redtop and herdsgrass make better hay than clear herdsgrass; and this is true, because the redtop, even when ripe, does not become so completely changed into woody fibre.

Now if herdsgrass is cut before the heads form, it makes good hay, and is worth nearly double for any stock. It is soft and succulent, and easily digested, and retains its aroma,

and cattle and horses readily eat it. But you will say, I shall not get so heavy a crop; the grass is not so large, and early cut hay, when dried, will not weigh as much as ripe hay. Well, grant it. But the early crop, being more nutritious and much better digested, the stock will not require so much, and the second growth, whether for fall feed or a second cutting, will make up the difference.

But this is not all. When the plants of clover and herdsgrass have once ripened a crop of seed, a large portion of them die in the ground, and the next crop is diminished in proportion. Weeds and coarse grasses have an opportunity to ripen and scatter their seeds. The English lawns are preserved green and thick, by frequent mowing; they are never allowed to ripen seed, and if we would preserve our meadows in grass for a series of years, instead of being obliged to plough up and reseed every three or four years, we must cut the grass early, and never allow the seed to ripen. Then, with top dressing, they may be kept in good condition many years.

It requires, perhaps, more labor to dry early cut grass than that which is ripe. But this difficulty is met by the hay tedder, which is coming into general use. Now with the mower, the tedder and the horse-rake, hay may be cut at the proper time and rapidly secured. Two weeks will do the work that formerly required six, and the hay will be housed in vastly better condition; and last, though not least, the land will be left in much better condition for future crops.

There is one other subject that should be mentioned in this connection, for all our farming operations have a relation to each other. Does the abortion in cows and ewes, which is becoming so formidable an evil in many parts of the country, arise from ergotted hay seed? It is a well known fact that the seeds of some grasses, as well as those of rye, will take on the change to ergot. This has been suggested as the cause of abortion. The question is well worth an examination. If it proves to have any foundation, the remedy is obvious,—never let the grass form seed.

Brother farmers, this is a subject of great importance; will you look at it, not under the influence of old habits and prejudices, but examine the question anew, carefully observing the facts?

WHEAT CULTURE.

The February number of the Report of the Department of Agriculture has some interesting remarks upon wheat raising. It is believed that our old method of sowing wheat broadcast is both a waste of seed and loss of crop, and that drilling at sufficient distance to allow culture by the horse hoe, will "increase the crop, improve the quality, destroy weeds, mitigate drought, promote growth, hasten maturity, and resist or anticipate, insect attacks." This is surely a sufficiently long list of advantages; all of which, except earlier maturity, we have no doubt may be realized. A half a bushel of seed, saved per acre, when wheat is $2 per bushel, with a proper implement, will go far to pay the cost of cultivating.

The writer says "scarcely less than twenty millions of acres will suffice for the wheat area of the United States, requiring nearly thirty million bushel bushels of seed, and little more than ten bushels per acre are produced. Ten millions bushels of this seed, worth perhaps sixteen millions of dollars might be saved to the country, sold for bread, and the proceeds applied to the cultivation of growing wheat, with a fair probability of obtaining, by such means, more than twenty additional millions of bushels for the bread of the nation. So large a portion of this seed is now wasted by sowing at irregular intervals, and at irregular depths, and so much is choked by weeds that farmers say they cannot use a less quantity. But with universal drilling, at a width to allow the tillering and growth that would result from hoeing or cultivating, two-thirds of the present supply would be more than ample. About one bushel in every seven produced in the United States is saved for seed, while one in twenty ought to be sufficient. Thus millions of bushels are wasted, buried in the earth with no prospect of resurrection, and sacrificed to ignorance and thriftlessness. It is taking the children's bread without the poor satisfaction of having fed a dog with it."

The cultivation by the hoe or cultivator between the drills is now very common in England, and has begun to be practiced in this country. One pound and nine ounces of Tappahannock wheat, sown in drills, eighteen inches apart, and cultivated between the drills, yielded 186 pounds, in North Carolina, last

year,—about one hundred and twenty to one, instead of seven to one, our average crop of late years.

In 1866, Ohio gathered but three bushels of seed for every one sown. What is the use of such culture? The English farmers have a saying that the worst weed for corn is corn. By corn they mean wheat, and the meaning of the saying is that it is worse to have the wheat too thick, than to have other weeds among it.

If there is not in use at present, a suitable cultivator for working between the drills, Yankee invention cannot be long at fault in producing one, if the wheat raisers call for one.

In the business of farming, as in many other things, men know better than they do. They will not forsake the easy going practices of their fathers till necessity compels them. They will even hold on till necessity presses hard upon them.

We think that necessity is now upon us, and we must give up our careless and wasteful methods of wheat culture and commence a reformation at once.

MANURES AND HOW TO APPLY THEM.

At a discussion before the Farmers' Club in Bedford, N. H., the chairman said that after trying several ways, he prefers breaking the sod early in the fall, not less than seven inches deep. In the spring drawing out the manure from the barn cellar, after it had been forked over, placing it in heaps, making five heaps from a cart body full, five paces apart each way, spreading it and harrowing it under to the depth of three inches. If to be planted in corn or potatoes, chain it both ways, and drop the seeds on the squares. If to be sown for fodder, harrow in four bushels of oats to the acre, and cut in the milk, which makes superior feed for milch cows, nearly equal to herdsgrass. After the oat crop is harvested, plough the stubble under across the furrows. The next spring, harrow; haul from the barn cellar the same quantity of manure as was applied to the oat crop, about twenty-five loads to the acre, spread as before, and cultivate or harrow in to the depth of three inches; sow on three bushels of barley, eight pounds of clover and twelve quarts of grass seed; harrow with a light harrow and roll. You will then get a good crop of barley, a good catch of grass, and a mowing field that will give you good crops. But do not fall feed unless you wish to spoil your mowing fields, and be obliged to take them up in three years.

Mr. C. suggested the addition of two bushels of salt, and three bushels of plaster per acre, immediately after the manure is spread, to be harrowed in with it, to keep the ammonia from the manure escaping.

Mr. R. had doubled his crop of grass by the use of one hundred bushels of leached ashes per acre.

At the close of the discussion the club voted, twenty to one, that manure should be applied to the sod after it had been turned over, and as near the surface as it is possible to cover it, not over three inches in depth.

SALES OF SHORT-HORN CATTLE.

The *Country Gentleman* furnishes the following notice of recent sales of Short-Horn cattle:—

H. G. White, South Framingham, Mass., has sold to B. Fellows, Monroe county, N. Y., the Short-Horn bull *Marmaduke* 5935. To the Franklin Co. (N. Y.) Breeding Association, the bull *Trumps* 6263. And to the Massachusetts State Lunatic Asylum at Worcester, the bull *Protector* 7156, by Autocrat 5334, dam Yarico 27th.

Mr. G. T. Plunkett, Hinsdale, Mass., has sold to A. G. Clark, Factory Point, Vt., the bull *Emperor* by 6th Duke of Thorndale 4752, out of Fleur de Lis, and the cow *Red Lady* by Rosy Duke 6142, dam Rose Standish. Also, to C. E. Coffin, Muirkirk, Md., the heifer *Ringlet* by Mosstrooper 5025, dam Rose Standish. Mr. P. has sold a South-Down yearling ram to Albert Newhall, Greenfield, Mass.

Mr. Jas. O. Sheldon, White Spring Farm, Geneva, N. Y., has sold to S. W. Robbins, Wethersfield, Conn., *4th Duke of Geneva*, from 7th Dutchess of Thorndale, by Baron of Oxford (23371,) for $3000. Also, to Wm. S. King, Esq., of Minneapolis, Minnesota, *5th Duke of Geneva* from 3d Duchess of Geneva, by 3d Duke of Geneva (23753,) for $3000. Also, to Mr. Josiah Fogg, Deerfield, Mass., a fine roan bull calf from Brightness by 10th Duke of Thorndale. To Messrs. F. M. Van Sicklen and J. A. Shedd, Burlington, Vt., *2d Earl of Oxford*, a promising red bull calf from 3d Maid of Oxford, by 2d Duke of Geneva (23752); the cows *Penitence* by Royal Oxford, dam Peerless by Grand Duke (10284); *Magenta* and heifer calf by 2d Duke of Geneva—Magenta by Grand Turk out of Minnewawa; the heifers *Moselle 2d* by Royal Oxford, from Mazurka 9th; *Laura* by Imperial Oxford, dam Lady Laura,

and *Brilliant* by 6th Duke of Thorndale, dam Bright Eyes 5th.

Mr. H. G. White has also sold to E. Shaw, Rockingham County, N. H., the Jersey bull *Lexington*, a grandson of the cow May-day, winner of sweepstakes (silver medal) at the New England Show at Providence, R. I., in 1867.

BEAN CULTURE.

The New York *Rural* is writing up bean culture, and we think with very good reason. At the prices of the past few years they must be a paying crop. They require less labor than corn, and will yield a good crop with less manure. We know no good reason why their culture should not be largely increased in New England. They require clean culture, and on land that will give but a moderate crop of corn, will yield from twenty to thirty bushels to the acre. We think the quantity raised in this State is much less than formerly. The early and late pea beans and the marrows are the kinds most in use. The pea beans require from twelve to sixteen quarts of seed to the acre, and the marrows one bushel. The early pea beans will ripen in sixty or seventy days. Beans require frequent cultivating and hoeing until they cover the ground. This should always be done in dry weather, after the dew is off. Handling when the leaves are damp will cause rust.

They feed largely on the atmosphere, hence as we have said, they do better on a light soil than corn and some other crops. But the better the soil, the better the crop. The first week in June is about the right time for planting.

AGE OF TREES FOR PLANTING.—Six years ago I concluded to plant me an apple orchard. I went to the nursery, intending to get three or four years old trees, but was too late. They were most all sold. So I bought 450 two years old, and a few three years. I planted them with the help of the nurseryman, and only lost one tree. Pleased with my success, the next spring I planted 275 more; this time I got those three years old, that looked more like trees, from the same lot as the first. Of these I lost about 20—gave them the same care and cultivation—and to-day any one seeing them would suppose the first planting one or two year's the oldest; and the three years old planted the first year are not equal to the others. Not being quite satisfied, the next season I planted 1000, four years old. I saved the most of them; that is, they just lived and that's all, and are now large awkward looking, stunted trees with no shape or symmetry. I shall have to wait till they make a growth and then cut it half away, and then they wont suit me. My first planting are fine in form, and thrifty, and this year I expect a good lot of apples, while the others have no appearance of fruit.—*Western Rural.*

For the New England Farmer.

WHAT MAKES MY POTATOES ROT?

I will tell you, sir, without stamps, patent-rights, or tin-box humbugs for green heads. And I will tell you how to prevent the rot, for I have tried it for sixteen years with complete success, and I know of many others who have tried it with like success.

The first cause of rotting is planting them in ground that has been stripped of the material that is needful for their proper composition. The second cause is wrong management in cultivation.

The remedy is to apply the right material and the right cultivation.

I will mention two instances among many, for example. Two farmers, whose lands joined, planted the Mercer potato for New York market. Both ploughed in yard manures. One ploughed deep, planted on mellow bottom and covered a good depth, keeping the roots moist and at an even temperature. When the rain came, it carried the fertility of the earth with it to the roots, and even down below, attracting the roots downward. This man always had sound seed to plant, sound seed to dig, and large crops, year after year.

The other ploughed very shallow, dug holes to hard ground, covered very shallow,—one of the greatest errors in planting potatoes. When the rain came it flooded the potatoes, but did not readily pass of. His seed was always distempered, and he lost large quantities every year.

One thing is certain, potatoes cannot grow in mud. Forty years ago, I planted a plat by a river side. They came up finely, but when the potatoes were the size of a hen's egg, there came an extraordinary flood, and overflowed them for two hours. The next day there was not a sound tuber in the plot. Once a neighbor came to me to see if my potatoes were rotting. I told him they were not. He said his were half rotten. I said to him, I can tell you which hills are rotten, and which sound, before you open them. I went and was able to do as I said. Where the water could drain from the hills the tubers were sound; where it could not, they were rotten. News came to me from a plain a mile or two distant, that the air was poisoned with rotten potatoes. I went to see, and found all true. I passed by one field, rather low ground, with the subsoil near the surface. It was thrown into ridges and had been well planted. A beautiful crop of large Mercer potatoes were lying on the ground, with not a rotten one to

be seen. My nearest neighbor cultivates potatoes ploughing deep; planting on mellow bottom, and covering good depth, and has had no rotten potatoes for forty years. Planted the Sebec last year; had fine large yield; not a rotten one. Another man, two miles off, had the same kind rot badly, as did also the Mercer, and several other kinds of early potatoes. Planting near the surface, and light covering causes many thousand of bushels to rot. Lying too long in the sun and air when first dug, or when brought out of the cellar, has a bad effect on a future crop by increasing the liability to rot. The use of small ones for seed will cause them to decrease in quantity, size and quality.

New ground, or that which has lain long to grass is most favorable to a good crop of potatoes. In deciding what is needed to restore old ground to its former fertility, consider what has been taken from it in the wheat, corn, flax, buckwheat, potatoes, or beans. Among other substances I have used and seen used for the purpose, are bone dust, if good; forest leaves and decayed woods mould; turf; hen manure; castor pumice; wood ashes; sea manure; shell lime and saline matter. Another thing of much value, but little thought of, is to be found on the margin of the sea, rivers and ponds. There for ages the fine rich compost has floated and settled from barnyards and cultivated fields. I have seen such produce fertility equal to the best yard manure. Yard manure, the great staple, is not alone sufficient in all cases for crops. Stone lime is good, but it takes six months or a year to prepare it. Fish manure will produce monstrous crops, but without yard or other manure it spoils the land. Lime, followed by clover, and the roots ploughed in, will bring land into high fertility, produce fine crops, and the best of fruit and vegetables and kill insects. From your old friend, who this day completes his four score and fourth year, in good health. PHINEAS PRATT.

Deep River, Conn., Jan. 28, 1868.

REMARKS.—The foregoing communication of our venerable friend indicates a more active mind and firmer nerves than most men of his age enjoy. Every word of his communication is plainly written, each letter being well formed, and the hair and heavier strokes are graceful and smooth.

For the New England Farmer.

FARMERS' TALK ON FENCING.

The following abstract of the discussion of the Irasburg, Vt., Farmers' Club on the subject of Fencing is furnished by their Secretary, Z. E. Jameson, Esq:—

Wm. L. Jameson regarded the subject of fencing as important on account of its cost and its necessity. In some places the citizens try to get along without fence, as at Vineland; and here in Vermont we could do without road fences better now than in former years, as cattle and sheep are not now allowed to run in the roads. He preferred rail fence for durability. If it is well put up it will stand well on land where posts heave. Still he makes a good deal of post and board fence. He sharpens and drives the posts. He likes the fence built at the village where the post is set upon a stone and held in place by irons set in holes drilled in the stones. Where stones are plenty, wall is a good fence; or half wall, with posts at intervals to which nail a couple of boards. He does not use bars, but makes gates of light timber, with a wheel at each lower corner that runs upon planks. Such gates open easily and are better than bars to drive cattle through, and are superior in other respects.

E. P. Church had built nearly all kinds of fence and believes that made of cedar rails the best. He would make the rail fence straight,—the ends of the rails being placed between two stakes which are kept together by a wooden yoke or a wire. He has board fence on clayey soil, but the posts heave out, the nails are broken, and it needs frequent repairs. He thought we should not fence our tillage land into small lots. The time will soon come when we shall not pasture our fields. We should have some small enclosures where any animal can be kept secure. He regarded brush or tree fence through woodland as the poorest kind of fence, as it needs repair every spring. As to gates and bars, he preferred bars, and has not a gate on his farm. Gates are almost always out of order; the wind breaks them, and they cannot be opened when the snow drifts or is deep. He had one at a barn yard that was always a bother. He raised it up so as to swing over the snow and then the calves would crawl under. It would get loose in windy nights and slam back and forth, and he had to go out and chain it up. He threw it aside and made bars. He mortices the proper number of bar-holes, or cuts notches in the side of the post and nails on a cleat. His bars are sawed 1½ by 5 inches. He slips them back very quickly, and does not take them out.

[Our cattle-market reporter wishes us to say that after having watched, for several years, the operation of various styles and patterns of swinging and sliding stock-car doors, or gates,—all of which are liable to be clogged by frozen manure in winter, and to get out of order at all seasons,—he finds that the plan of neat bars which slide back, as suggested by Mr. Church, give by far the best satisfaction to the drovers, who are always in a hurry to unload their stock.—EDS. FARMER.]

Z. E. Jameson thought that the perfect fence is a tight board fence, made of inch boards with a cap board on top of the posts

and one board under it on the inside and posts only five or six feet apart. This, with posts at five cents each, and boards at $10 per thousand, cost, for material, one dollar per rod. A fence is to enclose or exclude animals; and to be perfectly satisfactory must be perfectly adapted to this purpose. For want of a perfect fence our crops are injured, some farmers cannot wean their lambs, control their bucks, or do justice to calves, colts or sick stock, and they suffer yearly losses on this account. Our late crops, such as corn and potatoes, are injured by cows grazing the fall feed in the meadows; and one great reason why turnips are not cultivated as field crop, is because they prevent fall grazing. He favored the thorough fencing on lines, by roads, and around a few small lots. A movable fence, to throw around any special crop, would often be an advantage.

J. N. Mead had built and repaired board fence, but prefers a crooked rail fence, and thinks brown ash very durable. He would not separate pastures, as it is an injury to dairy cows to be changed from one to the other. The extra flow of milk consequent on such change is injurious.

Mr. Moon spoke of the advantage of gates over bars to stop cattle. Unless pinned at each end, bars are easily let down by stock. A gate that rolls back upon wheels he regarded as far superior to bars.

Mr. Brewster said that in dairying, it is not necessary to have as much fence as in mixed farming, because cows do better in one pasture all summer. If changed often they do not feed so contentedly. Had had considerable experience in building rail fence, and when laid up true is both permanent and ornamental. In making fence set stakes to guide the workmen.

Wm. L. Jameson would not make small enclosures, but if he wished to keep an animal secure he would put it in the barn. We cannot afford to pasture good tillage land. He built rail fence quite crooked, the corners projecting each way three feet from a straight line. In making board fence he used twelvepenny nails that had been toughened by heating in the fire, and finds they will last much better than common nails, and seldom break.

For the New England Farmer.

A PLEA FOR THE ROBIN.

After perusing the article on the robin with considerable care and interest, as presented by a subscriber in the April number of the monthly FARMER, and believing your columns to be a medium for the free discussion of affairs pertaining to the interests of the tiller of the soil, allow me to offer a few words in behalf of one of our noblest birds, and that true friend of the farmer, the American robin. Your correspondent and others complain *bitterly* of the depredations inflicted upon them, and in the exercise of their hatred toward the robin, are pleased to level on him the epithets of "an incorrigible thief and an unmitigated nuisance." Now, sir, with all due charity for those who have suffered from his annual visits to our New England clime, and seen their fondest hopes blighted, I think I can safely deny this assertion. From personal observation it is my sincere conviction that for all the cherries plundered, strawberries and raspberries taken by theft, pears and other small fruits ruined, they return to the owner their value ten-fold in the destruction of grubs, worms, and insects so injurious to vegetation. Having for some time cultivated the usual variety of small fruits, for which the robin evinces a decided preference, and being visited yearly by large numbers of them, I have yet to learn of sufficient mischief being done to warrant their destruction; but on the contrary think it becomes every *generous hearted* farmer to share willingly the products of mother earth with the red-breast, his lasting benefactor. The secretary of the society whose report I refer to, also recommends asking for a repeal of the clause of the present bird law regarding the protection of this bird. I cannot agree with him on this point, but with all my heart, I hope the present law will admit of no modification, but be strictly enforced, as it seems to me the public good demands it. What is more cheering to the farmer as he awakes to the labors of a new day, than the sweet carols of birds, nature's own musicians, who in the glad spring time make the air resound with their joyous notes, ever giving praises to Him from whom all blessings flow? God in his bountiful goodness has given them a life to enjoy, and I would ask is it right to deny this privilege to a comparatively harmless creature? And in conclusion, I would say to my brother farmers, cultivate the acquaintance of, and ever protect, the subject of this sketch. I subscribe myself,

A CONSTANT READER.

Sudbury, Mass., April 21, 1868.

For the New England Farmer.

A WILD CALF.

MESSRS. EDITORS:—I have a little calf stoy to tell you. It may interest some of your readers,—it has me, I can assure you.

The 13th of last November, I was trying to drive some young cattle into the barn, for the first time since they were brought home from Princeton pasture. One large, wild calf, seven months old, broke from us and dashed through the yard fence and away. We left out the cow that had raised him, and they were soon together; but he was shy of the barn, and soon was a mile into the woods. After a great race with my man, we "headed" them, and got them turned towards home on the railroad track. I began then to feel quite indifferent whether the calf butted against the engine or

not. If you have ever raced after animals galloping away, you know there is precious little fun in it. We met a couple of fellows who insisted upon stopping the cattle. The more I called to them to let them go on, the more did they exert themselves to hinder them. The result was that the animals were separated,—the calf first leaping into the woods. The cow came home alone. I tied her afterwards in the woods near where the calf disappeared. She would eat and lie down,—I never heard her bellow once after her calf. The nights were now becoming very cold, and I felt distressed to think of my poor calf, shivering in the woods. I went to every farm around the woods, which is several miles in extent, and advertised my loss.

Dec. 27th, I heard that the lost calf was alive in a swamp in Stow. I took a good hunter, living near, and got a sight at him. He was wilder than ever, and hearing our approach, disappeared in the woods. We thought he might be so reduced as to be cornered or overtaken; so we followed tracks, but saw no more calf that day. I had a great deal of advice,—much of it was like that of the sage mouse in the fable "to fasten a bell to the cat!" I did, however, ride to Sudbury and hire a powerful dog, (it was a fresh trial to me, as I have always been down on dogs,) and his master, to join the hunt.

This preparation for his speedy capture gave the calf great life, and he dashed miles away. At last, by hard riding and harder running, we surrounded the calf in a grove. Now for the dog! Would he be good enough to seize him by the nose? then each man could grasp a leg,—there were four of us,—panting with excitement; but no! the extraordinary dog kept a rod or two off, and *barked* at him! Away went the calf so fast and so far that we lost sight and track of him for a time.

One of the company knew of *another* dog that would "fetch him," certainly. So we organized another party, and tore coats through miles more of woods, with no success. I think less of dogs! But we had driven the calf from his feeding ground. He missed the tender sprouts and the long meadow grass that held up through the snow. In about ten days, (Jan. 22,) a company of school boys captured him. He was led a prisoner to a neighboring barn. I found him disposed to jump towards me threateningly, but soon coaxed him into a perfectly docile condition. He was very poor, his eyes were sunken, and his hair was long and shaggy. Since getting him home he has picked up rapidly,—is turned out with the other cattle daily, and seems the most completely reformed prodigal you ever saw.

W. D. Brown.

Concord, Mass., Jan. 29, 1868.

Remarks.—We once had a somewhat similar calf chase. From its first appearance, the calf we speak of was so remarkably shy and wild that, instead of turning it from the small stable or "calf-pen," in which it was kept, to put upon the cow, as usual with other calves, the cow was turned in to him. One day, on letting out the cow, the calf slipped into the yard. As soon as he found himself in the open air, he appeared to be perfectly intoxicated or crazed with his new-found liberty, and bleating and jumping as though a tin-pan were tied to his tail, he cleared dung-heaps and fences, and, bounding across the open fields for some half a mile, entered a piece of woods. The cow called and started after him, but followed no further than the yard fence. She was then driven into the woods and left alone, while one of the party, being a good mimic of sounds, hid himself, and so successfully imitated the call of a calf that the cow responded and soon met her "prodigal son," and the two were carefully driven home.

EXTRACTS AND REPLIES.

MANAGEMENT OF MANURE.

I have taken the Farmer for eighteen years, but until the past few weeks have never read another man's paper. The enclosed I hope will put me right again.

I wish you would tell us whether we shall put our manure on top or plough it under. Is there a waste of the strength of manure by dropping it in small heaps, as it is taken from the barn? Where a dozen loads are put in a heap and heats, do the gas and ammonia escape, provided it does not burn or firefang? It seems to me this is a subject that is very imperfectly understood. Please give us your ideas and oblige A Subscriber.

Hanover Centre, N. H., April 13, 1868.

Remarks.—When manure is hauled out in the winter, it should be overhauled early in the spring, before it heats, and thrown into a compact heap. Undoubtedly much valuable material is lost long before manure is burned or firefanged. Many experiments have been made within a few years with respect to the depth to which manure should be covered. The general conclusion we believe is that it should be covered from three to five inches. This is best done with a cultivator or light plough.

HOME-MADE SUPERPHOSPHATE.

I read with considerable interest, in your last issue, an article by Dr. Jas. R. Nichols, on the manufacture of home-made superphosphate. I have made what I have required for my own use for the last ten or twelve years, and have experienced the most satisfactory results, but my process has been so entirely different from that of Dr. Nichols, that I venture to offer it, as I think that I obtain nearly the same results, with vastly less labor.

I use oil barrels to dissolve my bones in, which can be bought at most any woolen mill for about a dollar each, and by selecting good ones with iron hoops, they will last five or six years. I break the

bones with a large hammer into pieces perhaps as large as a butternut, which I find sufficiently fine, as the acid, even if it does not entirely dissolve, softens them sufficiently; so that I have been unable to find any pieces in the hill the following autumn. A good man will break about an oil barrel full in a day, besides doing my chores. I usually do that part of the work during the winter or dull days in early spring. The broken bone is then put into the casks and a couple of common wooden pails full of water turned upon it; then two and one-half pails of acid, and then add enough more water to cover the bone when it boils. No stirring is necessary. Allow it to remain in the barrels a few days and then mingle a barrel of the mixture with a small cartload of good loam,—dry muck is equally as good,—and allow it to remain in the heap about a week or ten days, and then shovel it over, commencing at one side of the heap and slicing it down with the shovel. This will thoroughly mix it; after which it ought to remain at least two weeks, when it will be ready for use. Apply a half pint to the hill. Corn or potatoes may be dropped directly on the manure.

HENRY G. TAFT.

Uxbridge, Mass., May 2, 1868.

SETTING APPLE TREES—GRAFTING—SOIL FOR THEM.

I wish to inquire the best time to set apple trees, and if grafting can be done successfully the same year of setting? Is it best to transplant in spring, or wait until fall? The place where I intend to set is on land newly cleared, of a light gravelly loam. Will the trees do better than on older land?

East Burke, Vt., 1868. W. A. E.

REMARKS.—We should prefer to wait till the trees get well rooted before grafting. Our own choice is to set trees in the spring, though they often do well set in the fall. Your new land is just the right soil for trees. Set them carefully and not too near—forty feet is regarded by many as better than less.

WHY DO BOYS HATE FARMING?

Boys hate farming because it *is* hateful. Are not farmers, as a *class*, a poor, ignorant, superstitious set? Poor, because farming as a *general* thing, does not pay; ignorant, because they have not time to learn; superstitious, because ignorance and superstition are always together. The farmer boys have to work early and late in mud and mire, and in much "that isn't so sweet by half," doing the work of scavengers, and all for nothing. The young man who hires out as "farm hand" seldom gets twenty-five dollars a month, while in the shop forty is not uncommon, with cleaner work. *I* don't blame the boys for leaving.

Massachusetts, April 27, 1868. BILLY STYX.

REMARKS.—No, Billy, we won't "toss it into the waste basket, and forget it and you," but we'll print it just as you wrote it, because every word seems to come from your heart. We do admire out-spoken articles in newspapers, outspoken sermons in the pulpit, and out-spoken addresses everywhere, whether we agree with the ideas expressed or not. You say "What you'd have it, makeit." No, sir; that's not our style. Writers for the NEW ENGLAND FARMER are invited to express their own opinions. This you have done squarely, and though we may believe you will live to smile at your own earnest expressions, we cheerfully put them on record. After you have tried the "forty dollars" per month and the *tidy* work in factories and shops, and paid present prices for board; after you have ascertained how little these journeymen and operatives have to boast over farm hands, on the score of cleanliness, intelligence, morality or cash, we shall hope to hear from you again,—if not before.

SEED PER ACRE OF CARROTS, ONIONS AND BEANS—OLD APPLE TREES—DRAINAGE.

Will you inform me, through the NEW ENGLAND FARMER, how much carrot seed, and how much onion seed is required for an acre? What is the fertilizer of these two crops? How many beans are required to plant an acre? How can I improve my old apple trees? I have about eight acres of clay subsoil; it is run out and produces but little. I ploughed some ditches last fall, and I want to drain it, but I cannot lay tile drains; how is the best, aside from tile drainage? N. P.

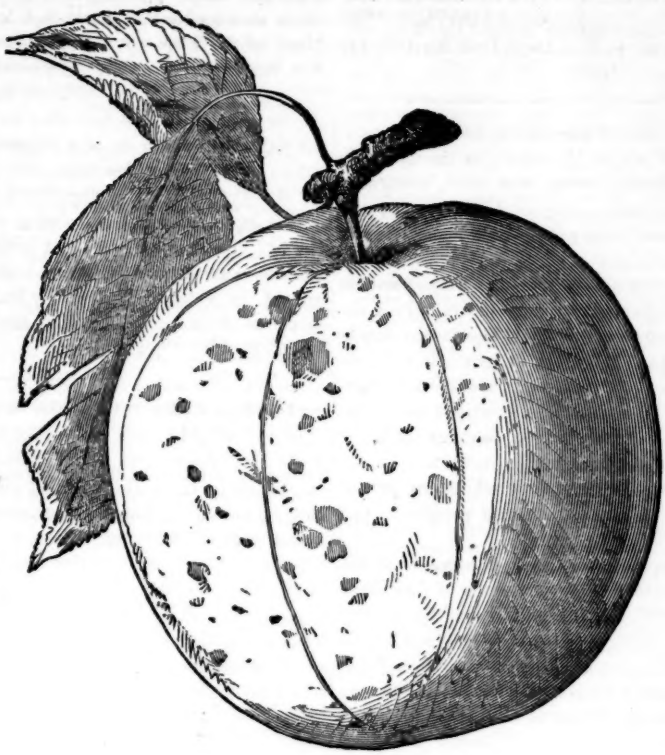
Lancaster, Mass., April, 1868.

REMARKS.—Inquirers sometimes ask questions that require long answers to be satisfactory. The questions of friend P. open subjects that might fill a small volume. Carrots require a deep loamy soil, made rich by well-rotted manure—anywhere from twenty to forty loads will not be too much—plough deep and thoroughly pulverize the soil; not far from one and a half pounds of seed to the acre; rows two feet apart. Onions require a rich black soil, made very fine; ashes, lime and well-rotted manure, well raked in; sow and roll; steep the seed in urine, then dry it with plaster. Beans, if the small pea bean, require about sixteen quarts; if marrow, a bushel to the acre. Plough and cultivate the land upon which your trees stand, manuring heavily. Plant with potatoes. Then sow oats and clover; mow the oats green; take one crop of clover and plough again. The crops will pay the labor. Cut away all dead wood, and graft freely, and be patient. For your clay subsoil, thorough draining is the only effectual remedy. If you cannot put down tiles, make open drains three feet deep, at least. The clay retains the water on its surface. You must go deep enough to take off the water below the roots of the grasses. When this is done you can plough deep and make a good seed bed, and not till then. Good covered drains may be made with stones, but they must be carefully made, and unless the stone is on the land or very near, will cost more than tiles.

STEELYARDS INCREASE THE FLOW OF MILK!

Would you know the secret? By their use, you will find the quantity of milk to vary, and this variation will excite your curiosity to discover the cause. It may be found in a variation in the quantity of food given, or it may result from a change of quality. Weighing the milk will thus lead to a habit of investigation, not only in relation to the effect of food on milk, but also as to the "wear and tear of the cow" and everything relating to the cost of running the "milk factory," until the fact will be demonstrated that the best feed and the best care will produce the cheapest milk. All this will result from weighing the milk. F.

Mast Yard, N. H., May, 1868.



THE FALL PIPPIN APPLE.

The beautiful apple from which the above engraving was made grew on one of twenty-five varieties of trees which we set near our dwelling in Concord, Mass., in the autumn of 1848. It is said to have originated in Spain, where it is known by the name of Cameusar, and may be regarded as the national apple of that country. In England it has various names, such as White Spanish Reinette, D'Espagne, Fall Pippin, Large Fall Pippin, Cobbett's Fall Pippin, &c. Mr. Downing says, notwithstanding that Thompson and other English authorities consider this apple the same as our Fall Pippin, we are yet strongly of opinion that it is different. The true Fall Pippin is only an autumn variety, while this is a winter sort, keeping till mid-winter here, and in England till March. It is quite probable that the White Spanish Reinette is the parent of both the Fall and Holland Pippins. The fruit of the present variety is rather more oblong than that of the Fall Pippin.

Fruit very large, roundish-*oblong*, somewhat angular, with broad ribs on its sides, terminating in an uneven crown, where it is nearly as broad as at the base. Calyx large, open, very deeply sunk in a broad-angled, oblique, irregular basin. Stalk half an inch long, set in a rather small, even cavity. Skin smooth, yellowish-green on the shaded side, orange, tinged with brownish-red next the sun, and sprinkled with blackish dots. Flesh, yellowish-white, crisp, tender, with a sugary juice. Noisette (*Jardin Fruitier*) adds, "the skin is covered with a bloom, like that on a plum, which distinguishes this variety from all those

most resembling it." The tree has the same wood, foliage, and vigorous habit, as our Fall Pippin, and the fruit keeps from November to February or March.

SEVENTEEN-YEAR LOCUSTS.

Prof. Fitch, in his report to the assembly of New York, for the year 1855, remarking upon the seventeen-year locusts, says, "A fourth brood, and which has been the oftenest and most fully noticed of any, reaches from Pennsylvania and Maryland to South Carolina and Georgia; and, what appears to be a detached branch of it, occurs also in the southeastern part of Massachusetts. It was observed as long ago as 1715, and its re-appearance has been recorded seven times since—the last one of which was in the year 1851. It wil consequently re-appear in 1868.

Will our friends in the southeastern part of the State make a note of this prophecy, and look out for its fulfilment.

The pupa of this locust emerges from the ground in the night time. Some of them leave their shells near the holes from which they emerge. Others crawl up fences and bushes and trees, sometimes twenty feet, when, fixing themselves by the feet, the thin, shell-like covering cracks open, and the inclosed insect withdraws itself, leaving the empty case where it was fixed.

The oak is the tree which this locust appears most to infest, for the purpose of depositing its eggs, and next to this, probably, the apple tree. It also infests the hazelnut and the locust tree, and probably most of the deciduous trees, in the absence of the oak.

The full-grown insect attaches itself to the twigs of the trees, and inserts its ovipositor in an oblique direction through the succulent bark and alburnum. The wound is so made as to form a sort of lid of its upper side, under which the eggs are deposited, sometimes to the number of sixteen or twenty. A number of wounds are often made on the same twig. As soon as the eggs are hatched, the worms, which are about .06 in. in length, eat their way into the pith of the twig. The twigs usually die at the point at which the eggs are inserted, and are broken off by the wind and fall to the ground. Mr. Thomas W. Morris speaks of having seen the tops of the forest trees in Pennsylvania and Ohio for upwards of a hundred miles, appearing as if scorched by fire, a month after this locust had left them. Many of the wounded limbs, however, survive the injury which they have received. If the twigs are cut off as soon as the leaves begin to wilt, the worm may often be found in the pith. The worm is of a yellowish white color; clothed with fine hairs, the eyes and the claws of its fore legs tinged with red. It has six legs, the front pair being much the largest. It is quite lively and active in its motions and drops from the limb to the ground, in which it immediately buries itself by means of its fore legs, which are admirably adapted for digging.

IMPROVEMENT OF OUR WOOL.

In the Weekly FARMER of January 4, and in the Monthly, page 87, we published an article written by H. D. Tellkampf, of New York, and submitted by him to the National Wool Manufacturers' Association, Nov. 7, 1867, in the form of a report. In that article Mr. T. proposed the formation of a company for the importation and breeding of "the Escurial breed of Silesia and Saxony breed of sheep," to counterbalance the "Negretti blood," which he objected to "for its heavy grease," "harshness of the points of staple," "pitch tops" and want of the "necessary *fulling* qualifications."

A correspondent of the *Country Gentleman*, in replying to these objections to American wool, says:—

The responsibility for the faults of American wool rests wholly upon the shoulders of our wool-dealers, and the only remedy that will ever prove effectual must be the adoption of simple *justice* to the producer, by the fraternity of which Mr. Tellkampf is supposed to be an honored member. The history of the woolen trade of the country, demonstrates the fact that American dealers have actually paid a premium for "harsh ends," "pitch-tops," and a lack of "fulling qualifications."

From the beginning of 1827 to the close of 1861, the average difference in the price of *fine* and *medium* wool has been but about *seven and a half* cents a pound; and, from tables prepared by Messrs. Tellkampf and Kitching of New York, I find that the average difference in the value of *choice* Saxony and *full blood* Merino, from 1855 to 1862, has been but about *six* cents a pound, and it is the *full blood* Merino that produces the "pitch tops" and wool lacking the necessary "fulling qualifications." Now, every experienced wool-grower knows that it is quite safe to assume a difference of at least two pounds of wool per head between the two breeds of sheep, under ordinary care, and this is in favor of the Merino. "Pitch-tops" and "Saxony" both go to market with their year's clip of wool, and should the first obtain but 48 cents a pound, he receives $2.40 per head: while the latter,

at perhaps 54 cents a pound, pockets only $1.62—the difference of 78 cents per fleece, making so much of a premium for "pitch-tops." After shearing, both sell their sheep to the butcher, and the Merino sells for a full dollar a head more than his Saxon competitor, thus raising the premium to $1.78. The result is, Saxony feels rather *blue*, and resolves to secure one of "Pitch-top's" rams another year, and compete with him for the premium offered by the wool-dealers and butchers. This is the whole secret of the production of "pitch-tops" and wool "lacking *fulling* qualifications."

The remedy proposed by Mr. Tellkampf for the faults of American wool, almost induces me to exclaim, like one of old—"Can these dry bones live?" It needs no comment; but I would advise any one who seriously thinks of adopting it, to study carefully first, the history of the Saxon *mania* that once raged among our wool-growers like an epidemic.

Permit me to assure Mr. Tellkampf that as soon as wool dealers adopt the plan of buying wool upon its *merits*, as other farm products are purchased, he will not have reason to complain of the bad qualities of American wool. The hardy Merino of the land can be made to produce wool as white and clean as the falling snows, and with as *fine* a *crimp* as the wants of the woolen trade demand, as soon as the dealer offers the remuneration he has been giving for "*pitch-tops*" and *medium* quality. Farmers, although not all wise, are not altogether fools, and seldom fail to perceive what quality and condition of their productions bring them in the greatest amount of cash in the aggregate.

For the New England Farmer.

BEST STOCK MOST PROFITABLE.

Allow me a word or two in your correspondence column, on a subject too little thought of by many farmers. I allude to the rearing of stock. It having been my lot to travel much during the past year, I have kept my farming eye open for observation, and have had my previous convictions "irrevocably" strengthened that "the best" stock is none too good. I know from a little experience and much observation, that a farmer cannot afford to keep poor stock, much less to raise it. One would hardly stop to pick up coppers, if the silver dollars were just as plenty and as easy to get. The man who raises ordinary animals gets the coppers, and leaves the dollars for others to gather. And why is it? Only because it costs a little more to begin, and perhaps, a little more to keep it up. In the first place, there is too much guess work and not enough thought and system about this matter. Too much is left to chance. There is not enough looking into nature. Her laws are too little understood, and too little heeded, when understood. The poor dame is often treated as if she was a stupid old creature, hardly capable of knowing when she is imposed upon. But incompetent as she may appear to redress her own grievances, she always does it. She is lawyer, jury and judge all in one. Her cases are all settled according to law. No bribes nor threats move her from the direct path of justice. So if a farmer breaks her law and tries to cheat her, she pays him in his own coin. If he breeds crooked legged marrowbones, he gets marrowbones and crooked legs. There is no bill of exceptions, no appeal.

Instead of this loose, penurious way of doing things, every farmer should study his needs, and aim at the end he wishes to reach in a legitimate manner. First of all begin with some pure family, and then breed what he wants. At the present time, there appears to be varieties enough of all animals to satisfy the most notional; and good chances for safe investments, too; much better than raising mongrels. A good stock raiser said to me, the other day, in Manchester, N. H., "I sell all of my heifer calves from my Jerseys and my Ayrshires cows for $100 each, and my Jersey bulls for $50 each." Not many of the old-line farmers in that good old State would take a Jersey as a gift. Yet right in their midst one man gets more for a little calf than they can get for a full grown cow. The dimes are what they are after, but prejudice keeps them in the old track. Is it not better that a man should go for what pays best, rather than wed himself to any old notions? I find it common for particular cows of particular breeds to be valued at $300. They are cows that can be depended upon, either for their milking or for their stock raising qualities. Such cows are invaluable, and should never be suffered to "run out." It is a sorry picture that is presented in many a farm yard, to what it might be if proper care was given to breeding. "Get the best" is a motto that applies to farming as well as to any other business. Let the farmer heed it, and no longer wander from the high road of progress. Yours always for "the best." Z. BREED.

Weare, N. H., March, 1868.

For the New England Farmer.

TREATMENT OF ORCHARDS.

This subject is really one of first importance to our New England farming interests. When some farms, with not one-fortieth of their area in fruit, derive not only more but perhaps treble the revenue from fruit that is secured from all other productions, surely the fruit interest should be thoroughly studied.

I have read the many important articles published in the FARMER and other agricultural papers, which have come under my observation; and I have read in the orchards seen here and there; and have sought to study the subject with plough, mattock and hoe in hand, because I consider it important, not merely to myself, but to the great family of feeders, of which I am only a member.

I suspect that there is at present too much of a tendency to plough orchards. I suspect that the good results of orchard ploughing have been dwelt upon more than the resultant evils have been.

Not all who would raise fruit trees can be

favored with the kinds of soil most suitable to the peculiar kinds of fruit which they wish to raise. If a man wants to raise early apples for use or market, he will want to plant his trees in a light and active soil; but if he ploughs such a soil much, he may fail of success. Most light soils afford very little nourishment to the roots of trees, except so near the surface of the ground that every thorough ploughing will destroy the feeding roots. Some different process, I think, than that of ploughing, should be resorted to in such cases. Certainly it is hard for a tree to be robbed of its power of feeding. The very frequent use of the plough compels the tree, deprived of its feeding roots, to feed on carbon from the air, through its leaves, in too great proportion for the mineral elements it can obtain from the soil; and the wood formed cannot be healthy. I suspect that much of the blight on fruit trees, sudden decay of young trees, &c., may be only a result of this inequality between the mineral and carbonaceous elements in their growth. If so, the mattock, the spade-fork, and other implements to work the soil without destroying the little feeding roots, must take the place of the plough; or the "mystery" of orchard decay will continue to confound many.

I have observed that in ground where the subsoil is of the character of a sweet clay loam, the roots of fruit trees will run much deeper than in other kinds of soil; and I think there is no question that such grounds are more suitable to raising winter fruit, and may be ploughed more frequently than other kinds. Even there, no tree can afford to have its "teeth knocked out," every summer.

Well, Mr. Editor, I have suggested a text for you or somebody else to preach from; and rather than weary you with words about it, now, I may, perhaps, come again on the same errand, some other day. A. G. C.

Lee, N. H., Jan. 1, 1868.

For the New England Farmer.

IS KEEPING HENS PROFITABLE?

For a number of years past I have read with interest the various accounts published in the NEW ENGLAND FARMER, and other agricultural papers, relative to poultry-raising. As a general thing I have observed a *profit* reported, though sometimes a correspondent has ventured to exhibit an account indicating a loss.

I have never had a severe attack of the "*hen fever*," nor have I ever kept a large number of fowls; but for the last fifteen years I have had a few every year. I have endeavored to keep the best I could obtain in the vicinity. I have several times kept an accurate account, and very seldom has the balance been on the *right side*.

Last year I concluded to try it again, and the following is the result.

Stock on hand at the commencement of the year:

8 hens and one rooster	$2 25
9¼ bushel corn fed	6 80
2¾ bushels buckwheat fed	1 10
38 eggs set for hatching	38
	$10 53

CR.

By 64 1-12 doz. eggs	7 18	
By 3 hens killed	80	
By 8 hens and one rooster on hand	2 25	
		$10 23
Loss		30

I have given the actual numbers, quantities and prices.

Farmers who allow their hens to run at large, can better afford to keep them than any one else. There is always a good deal of loose grain about the barn in winter, that would be wasted were there no hens around. But I have long been of the opinion that those who have to buy all their feed cannot make poultry raising profitable, unless they are near a very good market. GRANITE.

Bloomfield, C. W., March, 1868.

REMARKS.—Who can blame the biddies for not showing a profit on "the right side" when they are credited but a fraction over eleven cents and two mills per dozen for their eggs? We hope this is not a fair example of the encouragement which is afforded to the "industrial pursuits" generally in Her Majesty's Dominions.

A DARK SIDE OF CALIFORNIA.

Mr. T. Woodhaus, Santa Clara, California, has lately written a letter to the New York Farmers' Club, in which, after alluding to the fact that companies of speculators have recently taken up some 200,000 acres of the best government land in the State, to the circulars they have issued, and to emanations of the press generally, setting forth the advantages of California "in glowing language," but which he thinks are intended to conceal information that is important to emigrants, he says:

I deem it a duty to say a few words to the public of what I know and have experienced as a California farmer for the past seventeen years. The climate is generally healthy and pleasant, but some localities are more subject to fevers than others.

Probably all know there are two seasons, a wet and a dry; when the wet one commences, which is sometimes early in November, and at other times not until the latter end of December, spring in reality commences, grass and vegetation grow; while all are parched to perfect dryness through the summer and fall. As to rain, the climate is exceedingly variable, droughts never fail, during which a scorching

sun and drying wind prevail, parching the earth from one to two feet deep. The season for rain also always returns, but with different results; sometimes the clouds seem to have every fastening to the heavens loosened, and come pouring down, flooding the valleys, carrying away bridges, fences, and even houses. At other seasons, and they are numerous, the clouds are attracted to the heavens and mountains, and furnish the valleys only from two or three inches to eight or ten inches of moisture, as in the rainy seasons from 1855 or 1856 to 1864, with one exception, which was in 1862, and called the wet winter.

My own and adjoining farms in Santa Clara Valley, during those years, produced only five or six bushels down to nothing per acre. One year, from 100 acres sown, not a bushel was gathered. This was the case all through that part of the country. It was quite as bad, if not worse, throughout the San Joaquin Valley, and, indeed, all the large valleys of California. Almost all the cattle were starved there, and also through all the Southern part of the State. Those who sowed lost their labor and seed, until the country of the San Joaquin, especially, was thought to be unfit for occupancy. Except for the little pasture it afforded for cattle, every acre of that fine agricultural country would have been occupied before now with bona fide settlers, who have turned away and are gone back to their Eastern homes, disgusted with California.

The abundance of rain the three last seasons has given a different aspect to these valleys, and there are plenty here ready to try them again, and if the seasons prove the same as heretofore, the results will be the same. My experience of California goes to show that the seasons of fertility and stertility come by periods of years. Previous to 1855 there had been plentiful rains, consequently plentiful crops. After that, the rains in the larger valleys were quite insufficient to make crops, except in those places where the water was near the surface. Now, again, we are in a period of abundant rains, mud in the roads ankle or knee deep, and very possibly next season may not give us more than enough rain to lay the dust.

Take another view of the case, and suppose the seasons of plentiful rain continue, there is no building or fence timber in the San Joaquin Valley. It has to be brought some hundred miles down the coast to San Francisco, then up the San Joaquin River 100 to 200 miles, then by teams; and this is not the end, for when you have put that material into buildings and fences, you will have to pay 2½ to 3 per cent. State and county tax, and on all you possess, even to your pigs and wife's chickens, nor is your individual person exempt, for that will be taxed to the amount of six dollars per year. The only things exempt from taxation that I know of are your wife and children, and they would no doubt be taxed, but that there are already so many bachelor housekeepers, that to tax wives and children would not be likely to make the number less. Should such period of drought again prevail, farms in that valley will not produce enough to pay the taxes, which are from double to five or six times that of any other State. Then there are litigations and robberies of homes and lands through the so-called Spanish grants, which afford pettifoggers a fine field for the exercise of their fleecing operations.

CLOVER AND WHEAT.—A correspondent of the *Rural New Yorker*, in Central Illinois, in walking over a field where one of his neighbors was sowing clover with his wheat, and harrowing them in on a field which was ploughed in the fall and was still frozen solid within four inches of the surface, asked him why he always sowed clover. His reply was:

"O, well, it don't do any harm; and I get a fine fall forage from it any way, when I put in the seed in February and March. Sometimes I change my plans and do not plough the field in the fall; if I do the clover and its roots do not hurt the soil much. If I turn it over in the spring for corn, the crop ploughed under the first to the 15th of May, is all that need be desired to ferment green and stimulate the germination of the seed. It is a profitable plan, any way. I like clover in my soil. Some people do not; but either I am a good deal of an egotist or some people are foolish. I find it a good substitute for weeds."

ECONOMY IN THE FAMILY.

The time is arriving when the introduction of more economy in the family expenses will become imperative. Among our mercantile people in the cities I hear of many failures, so that families who have been living in opulence and extravagance that a plain woman like myself knows scarcely anything about, will be obliged to economize fearfully. They will have to adopt a totally different course of life. Luxuries will have to be abandoned, and unless they have wealthy friends to lean on for succor, they may be driven to the dreadful alternative—even the wives and daughters—to labor for their own support. The change will be terrible, heart-rending to them, but it will no doubt promote their health and digestion, enable them to sleep soundly, and wake up in the morning with the consciousness that the breakfast about to be set before them they have earned by the sweat of their brow.

We have no doubt, however, that such a change will in the end prove beneficial. The wastefulness, extravagance and excess of the American people, in eating, drinking and dressing, has not had a parallel in the history of the world; and all this has been against health, happiness, and morals. When, as a nation, we tread in the footsteps of the old nations, we shall have to follow them as fami-

lies and individuals. If we go, therefore, among the rural and laboring classes of Switzerland, France, Germany, Sweden and Russia, we may take lessons in our future modes of life. In health and vigor they are among the first people of the earth, yet their expenditures are nothing in comparison to ours. Indeed, the waste of a common American town of ten thousand people, would almost or quite support as large a population in the rural districts of Europe. Never shall we come to their level, for our country is new and differently situated, but the next generation of Americans cannot hope to live as we have, and there we could take lessons in economy that would be very useful to us. We could discover, as we shall be forced to by some means —that a family can be subsisted upon a very small portion of what Americans are accustomed to expend; nay, that they can be fed on what is now, in many instances, thrown out their back door to the dogs. Those of us who take these lessons and practice upon them first, will be the best off in the end.—*Cor. Germantown Telegraph.*

GRAPE GROWING IN NEW YORK.—At a late meeting of the Herkimer county, N. Y., Farmers' Club, Mr. S. A. Farrington, of Schuyler county, said that along the Seneca Lake they are going largely into fruit growing—apples, pears, and grapes. The pear succeeds admirably but apples are troubled with the borer. Grapes succeed along the lake shore, and it is regarded as a very profitable business when well managed. It is generally conceded that five acres of grapes, to be cultivated properly, is about as expensive as the management of one hundred acres in the ordinary way when devoted to mixed husbandry. The profits will be much in excess of the farm. This year there were raised from well managed vineyards, two tons of grapes per acre, which sold from eight cents to sixteen cents per pound. The grape soil is a shaly limestone that decomposes and furnishes sufficient fertilizing material for the grape. Do not manure the grape with barnyard or other manures, except ashes, as it is regarded prejudicial.

NEW WAY OF SOWING GRASS SEED.—At a late meeting of the Herkimer county, N. Y. Farmers' Club, Mr. Cephas Johnson stated that of late he had seeded down his land by stirring into the grain to be sown just water enough to wet the surface of the kernel. The timothy and clover seed thoroughly mixed with the wet grain adhered to it in such amanner that the whole could be sown together broadcast and very evenly, and, perhaps in consequence of the nutriment derived from the decay of the grain, he thought the grass seed was more sure to take than when sown in any other way. Red top should be sown by itself.

AGRICULTURAL ITEMS.

—Northern Iowa and other western sections are going into the hop growing business extensively this summer.

—Mr. Lincoln Fay, a nurseryman and fruit grower of Portland, N. Y., plants fruit trees for posts, and hooks on to them panels for fence.

—That good New York farmer, John Johnston, says: "Only by mixed husbandry, and with particular attention to sheep and cattle, can grain growing be made profitable."

—The *California Farmer* says we can send away 75,000 sacks, (100 lbs.) of wheat per week until next harvest,—four months hence—and have all we need besides.

—The agricultural press of America is equal in ability, circulation and capital to what the newspaper press in the whole world was at the commencement of the century.

—The subject of beet raising for sugar purposes, is attracting attention in Central Pennsylvania. The White Silesian beet is the favorite for cultivation.

—Mr. Goodrich, the great experimenter in potatoes, raised over 16,000 seedlings, of which number less than ten sorts have proved of value for general cultivation.

—A simple corn-marker can be made by putting a four-foot axle between the front wheels of a wagon and a twelve-foot one between the hind wheels, coupling them together, with braces to the hind axle.

—The *California Farmer* quotes potatoes at $1.75 to $2.50 per 100 lbs., and remarks, "according to the present prices, it takes the whole of a laboring man's income to keep himself, wife and family well supplied with vegetables."

—They who have the hop fever and who are preparing to plant largely, will be glad to learn that a large part of the hop roots in Wisconsin have winter killed, for this will give them a better chance.

—In the American agricultural papers farm machinery is illustrated by decently dressed, smart looking men; in the English papers, by a heavy clodhopper with wide suspenders across his back, or by women following with rakes.

—After the sugar season is over some farmers in New York fill up the bit holes with nicely fitting wooden plugs, which it is believed facilitate the healing of the wound made by tapping, and preserve the vitality of the tree.

—A late number of the Lexington, Ky., *Farmer's Home Journal* notices the sale of one farm of 103 acres at $75 per acre, cash; 117 acres unimproved at $35 per acre; one farm six miles from

Lexington $100.50 per acre; in Woodford County 200 acres at auction at $97.50 per acre.

—The following are the officers of the Piscataqua River Agricultural Association, recently elected: Hon. James H. Butler, of Nottingham, President; Hon. Frank W. Miller, Haven L. Scott and Edward D. Coffin, Trustees; Nathan F. Mathes, Treasurer, &c.; Hiram Hayes, Secretary.

—The latest style of swindling farmers, is to appoint individuals as agents for the sale of a combined washing machine and wringer, with an allowance of $6 on each machine sold, then induce them to sign an order for $125 worth, which order, being equivalent to a note, is sold and sued.

—A correspondent of the *Rural New Yorker*, who attended the inauguration of the Illinois Industrial University, says there were about seventy students in attendance—bright-faced, wide-awake, rough-and-tumble fellows, willing to work, and evidently of the right kind of material for this experiment, which educational hypochondriacs regard so dubious.

—There is a little town in Vermont where the people have considerable fun with their "fence viewers." One of the officers weighs 300 pounds, another is six feet eight inches tall, and the third is extremely small. It was recently voted that all fences on which the fat man could sit, which the tall couldn't straddle, nor the little one crawl through, should be deemed legal fences.

—The State auditor of Massachusetts reports the amount of appropriations for agriculture for 1867, to be $34,042.39, viz.:

Secretary's office	$4,833 32
Expenses of members of Board	1,628 00
Cabinet	1,000 00
Cattle Commissioners	369 09
Bounties to Societies	15,000 00
Printing	11,311 29
Total	$34,042 39

—A correspondent of the *Rural New Yorker*, in Victor, Iowa, has been in the sheep business for eight years, and after trying all the various compounds warranted to cure the foot rot, has come to the conclusion that though it may be alleviated, it is practically incurable. One of his neighbors began the winter, one year ago, with 125 sheep, and in the spring had 124 pelts and one live sheep! Farmers in that section are so discouraged with the sheep business that they neglect their flocks.

—As illustrative of the Western style of farming, the following advertisement, copied from the Chicago daily papers, may be interesting to those who regard farming as a small business:—"*Wanted* —Contractors to break 4000 acres prairie, near Chatsworth, Ford county. Price $3 per acre. Houses, and lumber for stables furnished; no other extras. Address M. L. Sullivant, Chatsworth, Livingston County, Ill. It should be remembered that, when broken, this little patch will be hardly one-tenth of Mr. S.'s farm.

EXTRACTS AND REPLIES.

ASHES FOR WHEAT GROUND.—LIME FOR SHINGLES.

Will it be an object for me to put lime with my ashes for my wheat ground, that was manured last fall with barn cellar manure? Some say it will help the kernel very much. I intend to apply the ashes after ploughing this spring. If so, how much lime per acre?

As I am about to build a new barn, had I better dip my shingles in lime water? If salt should be added, how much is required? I saw a recommendation of this kind some time ago in your paper. Perhaps you can refer me to the paper. Some are dipping in tar. It will be much work to dip forty thousand. ROCKINGHAM.

Stratham, N. H., March 26, 1868.

REMARKS.—Prof. Holmes says that it is believed by some that lime as an application to the soil, acts in two ways—one as a *stimulant* that promotes vegetation by causing the soil with which it is mixed to exert itself; and the other, in promoting the growth of trees and plants by enriching the land as *manure*, and adding to the quantity of vegetable food. By others it is looked upon in a *chemical* and medicinal point of view; acting as an alterative, a corrector, a dissolver, as a decomposer, a disengager of certain parts of the animal, vegetable and mineral substances contained in the soil, and as a retainer and a combiner with others; but not as a substance, like dung or decayed organic matter, fit for the immediate nourishment of plants.

Nitric acid operates on silver, and not on the compounds of counterfeit coins. So perhaps it may be with lime when applied to different soils. In England and in the Southern States lime is much more popular with farmers, than in New England. But even in England, they have a proverb that while lime enriches the fathers it impoverishes the sons. There is also a great difference in the chemical constituents of lime. A writer for the *Germantown Telegraph* says when lime is prepared for agricultural purposes it should be used immediately. If long exposed to rain and dews before being spread it loses much of its power to act on the ingredients of the soil. The same writer says, from thirty to sixty bushels per acre should be applied once in six years. Will not our correspondent try lime on parts of his field, by applying it to strips through the wheat, alternated with those without lime.

A few years since Mr. Ed. Emerson, of Hollis, Mass., communicated to our columns his plan for making shingles last. He sometimes soaked the shingles in "thin white wash, made with brine instead of clear water," at others he laid his shingles in white wash. "I line with red chalk. Then white wash the last course laid, down to the line, and after the building is shingled I white wash the whole roof." He stated that he thought it would make the shingles last twice as long. He spoke of a roof covered with sappy and shaky shingles twenty years previously, and thought they would last seven years longer. He puts nails not over two inches apart, and does not drive them

so as to sink the head, for the purpose of having the heads of the nails hold up the buts of the next row of shingles, to allow the circulation of air. Dr. Silas Brown, late of Wilmington, Mass., prepared sap shingles by throwing them into a large kettle of white wash, made as above, and kept boiling, where they remained a few moments and were then thrown aside to dry. A roof thus covered was good twenty-five years afterwards, and he remarked "it may do for years to come." Sometimes shingles are soaked in a tub or trough large enough to admit one end of a bunch up to the band, and after soaking two hours or so are turned end for end. But they are better soaked when dry and loose. We have heard complaint of nails rusting in shingles that had been dipped in clear salt brine.

CRIBBING HORSES.

I believe all veterinary surgeons agree that after a horse has become a confirmed cribber there is no known cure for him; and all agree that the first cause is a disordered stomach. Therefore the best remedy for a horse just commencing to crib is to regulate the stomach by a change of food or otherwise. Of a valuable pair of young horses that we once owned, first one and then the other commenced cribbing. The first one began to crib on the pole, while in harness. We tried various plans; among the rest, rubbing hard soap on the carriage pole and on the edge of the crib. That seemed to answer for a short time until the soap wore off. At last we changed their feed throughout; giving salt marsh hay instead of English hay; oats instead of Indian meal; also kept by them in one corner of the crib plenty of fresh loam,—it was mid-winter—and plenty of clean salt. They soon left off cribbing, and although we owned them some six months longer, they never offered to crib again. In the above cases there was no alteration made in the crib or manger. By taking away the crib, and obliging the horse to eat from the floor, he is unable to crib in the stable, but will show his propensity if he is allowed to reach a post or top of a fence out of doors. A strap fastened tight around the neck will prevent the horse cribbing while that is on, but does not cure. Z.

Reading, Mass., Feb. 8, 1868.

TREES GIRDLED BY MICE.

Will some one of the numerous correspondents of the FARMER please inform me, through its columns, how to restore apple trees that have been previously gnawed by the mice.

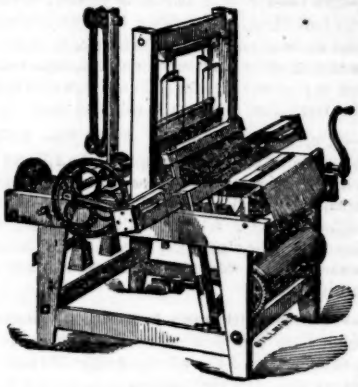
A READER OF THE FARMER.

Windsor, Vt., April 8, 1868.

REMARKS.—As the sap ascends in the sap-wood, and descends in the inner bark, the girdled tree may start well in the spring, but unless some means are provided for the descent of the sap the tree will die. To save girdled trees, Mr. Cole, in his Fruit Book, gives the following directions: Take large scions, long enough to reach over the girdling or decay, scarf off each end on the side to go next to the tree, like the lower end of the scion in side grafting, and insert each end in the same way, under the bark, the upper end being the reverse of side grafting, and like inarching. In large trees 12 or 15 scions are inserted. We have seen trees 8 or 10 inches through that were girdled, or otherwise dead in the bark, saved in this manner.

MENDENHALL'S IMPROVED SELF-ACTING HAND LOOM.

About two years ago we published, in our column of "Extracts and Replies," portions of two or three letters from farmers' families asking for information in relation to the truth of certain rumors that had reached them of a newly invented hand-loom,



said to be a great improvement over the rude implement with which our grandmothers wove their webs which "became garments" and "covered themselves" and their families "with their works," and an improvement, we presume, over the looms of old that suggested to thoughtful Job the remark that his "days were swifter than a weaver's shuttle."

Having recently seen one of these looms, and with our own hands set all its cunning machinery in full operation, we are ready to verify the claim of the proprietors, that it is so simple that a child can understand and operate it. We were also pleased with the perfection and apparent durability of its construction, and do not think it can be liable to get out of order. Occupying a space of less than five feet square, it is, in fact, a pocket factory, turning out on the same warp, Jeans, Satinets, Tweed, Linsey, Blanket, Twill, Double-plain, Fencing Twills, Ribbed Goods, Balmoral Skirting, and by a recent improvement, rag-carpets may be woven with great ease and expedition, and with a fly shuttle.

The advantages of such a machine to farmers who have a good family of boys and girls, are so obvious that any enumeration must weaken the force of those which suggest themselves to every thoughtful parent and housekeeper.

FARMERS' WIVES AND AMERICAN MOTHERS.

Those sensible articles on Domestic Economy induce me to express a few of my ideas. It seems to be a prevailing notion among young people, especially females, that farming is a low business, inconsistent alike with beauty and accomplish-

ments. Thus many young ladies scorn the idea of marrying a worthy farmer's son. They prefer some city youth who has soft white hands and dainty little feet. The ambition which prompts young ladies to seek for a respectable position in society is certainly commenable; but is there a more honorable station than that of a farmer's wife? Napoleon the Great, once asked a celebrated French lady how he could promote the best interests of France. She answered, educate the mothers of the French people. That answer might well apply to American mothers; for were mothers properly trained, their sons and daughters would be better qualified for positions of honor and trust. Too often frivolities of fashion crowd from the minds of both mother and daughter all thoughts of reasonable things. Health is sacrificed, and the mother often mourns when the daughter's beauty wanes, and when fashion fails to please. In my opinion the prosperity of our country depends on her women; and young females ought to consider the great responsibilities that rest upon them. They should acquire thorough habits of domestic economy, and be qualified for something better than following unhealthy and foolish fashions. Our able bodied young men should turn their attention to the vast agricultural resources of our country. It is a noble occupation to till the soil and get one's bread by the sweat of the brow, and there is much happiness in a well ordered farmer's home. Every industrious, thriving young farmer is worthy of a good and beautiful wife; and more of our young women should rather be anxious to qualify themselves for the duties of that position than for a place among the votaries of fashion, to which so many aspire. MRS. TRASK.

Reading, Mass., March, 1868.

GRAFTING APPLE TREES.

Having had more than fifty years' experience in grafting, and having read all that has come to hand on this subject, I give the following as practical directions:—

Cutting Scions.—For late grafting, they should be cut early. In 1863, I cut scions in the month of November. Some of these were set in June following, and all lived. When caterpillars are scarce, scions do best set in April; but when these pests are thick, (as in 1863) late grafting may be protected from their fatal depredations by placing the lower bud one-fourth of an inch below the top of the cleft, and covering the bud entirely with wax. The wax does not hinder the starting of the bud, and when scions are thus set, during the latter part of May, the worms disappear before the buds appear. I have often known them to kill the upper bud or leaf while the lower one was shielded. And besides, when scions are set in this way they are less liable to be broken by wind or by the weight of birds that may alight upon them.

Splitting the Stocks.—A thin knife is preferable to a thick one, as the stock is generally cross-grained or twisting. A thin knife, driven down about one inch, cuts a smooth place for the scion. My knife is made from a piece of a wood-saw plate, set in the back of a joiner's fine saw, near the centre, and ground to an edge. PHINEHAS FIELD.

East Charlemont, Mass., Jan., 1868.

HOW TO USE CORN COB MEAL.

I have noticed quite a number of articles upon cob meal in the FARMER. As a general thing, it appears to be regarded rather worthless, or not worth enough to pay for grinding. I am a cob meal feeder, and have been for seven years, but should not use it unless I thought it profitable. Some of my neighbors laugh at me for thinking it pays, but I tell them that the condition of my cows and the milk they produce are the arguments that satisfy my mind. With a family of seven, we have made this winter some twenty pounds of butter more than we have used, from two cows, that are coming in this spring. They have had no meal except the cob meal, and they look well, though they have been obliged to eat some coarse fodder, as I am short of good hay.

My manner of feeding it is this:—For two cows about five quarts are put into a pail, to which sufficient boiling water is added to thoroughly scald it. It is allowed to remain in the pail until morning, when it is turned into the swill-tub, where the sour milk and dish-water is kept, and stirred together; it is then ready to feed.

Now if any one is disposed to try cob meal on my recommendation, I hope they will read what you said in speaking of the exposure of orchards:—"Half of the controversies and half of the misunderstandings between men arise from not understanding what each other mean by the words they use," because I believe that the same remark is applicable to our agricultural experiments. The directions given are not understood, or not fully carried out. In my opinion cob meal has got its bad name from the improper manner in which it has been used. If given dry, or stirred up in cold water, I should expect to find it "didn't pay."

Felchville, Vt., March, 1868. T. S. P.

THE BEST WAY TO RAISE AN ORCHARD.

Plant a few seeds in each spot where you wish a tree to stand; cultivate the young trees carefully, and select from each bunch or hill the one that appears the most hardy (not the largest), and pull up the others when they are one year old. When the trees are three years old, if they have been kept trimmed and properly nursed, they will be ready for grafting. Let this be done by setting one scion in each tree, at such distance from the ground as suits your fancy, anywhere from one to five feet. The hardiest and the best bearing apple trees I have ever known are such as have never had their roots disturbed. PHINEHAS FIELD.

East Charlemont, Mass., Jan. 14, 1868.

FISH FOR MANURE.

I have bought some broken fish for manure. I wish to know how to make it into manure, and what crops it is most adapted to. Will you give needed information if agreeable. INFORMATION.

Northfield Farms, Mass., April, 1868.

REMARKS.—Fresh fish are composted in alternate layers of leaves, peat muck, loam, charcoal dust or even sawdust; they are also laid around the hill and covered up when corn is planted; dug in around trees; ploughed under; placed in an excavation of earth, and covered with peat muck or loam, and when they become soft wet with dilute sulphuric acid, and the whole mass of fish and earth thoroughly mingled; or mixed in small quantities with barn-yard manure.

HORN OFF.

One of my young cows knocked one of her horns off, by hitting it against a post, one of the coldest days of the winter. So neatly was it done that not a particle of the skin adhered to the horn, and it bled but little. Not liking the theory of keeping her fastened to the stanchion in one position, till it was well, I gave the pith a good covering of tar, then neatly wound it with cotton cloth, using a strip two inches wide, then put tar on that, and

over the whole I put on a cot, made of strong cloth and tied it on. I then fastened her as usual. For a day or two she was careful not to hit it against anything; after that she did not appear to notice it at all. Repeated trials of this method have always proved satisfactory. B.

Bethel, Me., Jan., 1868.

LICE ON CATTLE.

Twenty years ago I read in some paper that water that potatoes are boiled in would kill lice on cattle. I tried it and found it would effectually kill them. The animal should be washed all over in it. In extreme cases, I put one pint of soft soap in a pail of potato water, and work it in well, and I never have failed of killing every louse. It is a safe and cheap medicine, and will not do the least injury to any animal. I have used tobacco, unguentum and other poisonous things, and came very near killing one ox. O. FOSTER.

Tunbridge, Vt., March 23, 1868.

PRUNING PEACH TREES.

I have some young peach trees which I wish to head-in. Will you please inform me when is the best time to do it, and what part of last year's growth should be cut off, and will it be best to thin out the top? They made a vigorous growth last year, and it seems to me that the tops are too thick. By answering, you will much oblige at least one subscriber. JONAS HOLT.

Andover, Mass., April 7, 1868.

REMARKS.—For some years past the severity of our New England winters has killed our peach trees so near to the ground, that we have had little opportunity to exercise our skill in trimming them.

Unpruned.

When not so killed, there is a strong tendency, says Mr. Thomas, in the terminal buds to push upward and outward at the expense of the side shoots, which soon dying, the tree is ultimately composed of long, bare poles, with only tufts of leaves at their extremities, as in the annexed cut, and hence the peach requires more pruning than any other of our fruit trees.

As the peach always bears its fruit on the previous year's growth, it is important to keep a continued supply of young wood evenly distributed throughout the head. This can only be done by continued cutting back, either in the fall or spring. Pruning at the trunk should never be practiced, excepting to cut away dead or dying branches. When too thick, however, small limbs may be removed while the tree is young. Generally the peach should be pruned at the extremities of the branches, by cutting off one-third, or when very luxuriant, one-half of the last growth. This, however, should not be done as you would trim a hedge, but in such a way as to admit light to the interior part of the head. Care should also be taken in cutting back to trim down to a fork so as not to make a dead stub. The object is by heading-in to form a low compact top which saves the tree from excessive crops, heavy winds, damp snow, sleet and ice, and promotes health, vigor, longevity, and fruitfulness. Mr. Cole says in his Fruit Book, that for the purpose of inducing early bearing, where the trees are luxuriant and barren, about one-third of the new growth may be removed in July.

Shortened-in.

DISSATISFACTION OF THE BOYS WITH FARMING.

The question is often asked in our agricultural papers why so few farmers' sons are willing to stay at home. Among the reasons for dissatisfaction with farm life, is the fact that parents fail to interest their sons in the farm and its surroundings. Young people often wish to have things look well about the buildings, with a snug little flower-garden, &c. But if they attempt to put things to rights they are called off to the potato field in a manner that indicates that attention to these home matters is a waste of time, and that time spent about these improvements is fooled away. Is it strange that we get tired of drilling on corn and potatoes, potatoes and corn, all the season? And when the produce is sold in the fall, what share or interest have we in the proceeds? When the boys visit the city or village with empty pockets, and see what other boys have, is it a wonder that they determine to leave the farm as soon as possible? When farmers will endeavor to encourage their sons by giving them some personal interest in their business as co-partners, or otherwise, as merchants do their faithful clerks, and allow them the occasional use of horse and carriage, and some spending money, I think they will have less occasion to mourn over the uneasiness of the boys, and will find their sons more willing to remain upon the old homestead and cheer their declining age. Adopt this course, and there will be less idlers in our cities and villages. I believe this course will also do much to allay the Western fever which takes off so many young men to the new States.

Great Falls, N. H., 1868. YOUNG FARMER.

APPLICATION OF MANURE.

I have been anxiously waiting for more facts bearing on the question of ploughing and harrowing in manure. Some of the statements in late numbers of the FARMER go to extremes. In No. 47, "H." says, those who have tried harrowing in manure are staunch friends of the harrow. Another gentleman says he has become satisfied by experience, that three loads of manure put in with the harrow is well worth five buried with the plough for a grain or grass crop, and will hold out longer. If this be so I am satisfied that a great many farmers do not know how to apply manure, or else they would not have such poverty stricken farms as they have, when they could manure more acres every year than they do and receive greater remunerations for their labor. He then says if he was to plough manure eight inches deep, he would feel like saying, good-bye, manure. Another gentleman says he has known some farmers plough in a heavy dressing so deep that they never heard from it afterwards, and he thinks himself if manure is ploughed under, say one foot, it is buried not only out of sight, but out of reach of any grain or grass grown in this land.

Taking these cases, which I call extreme ones, and looking at the plan of putting on twelve loads manure to the acre, and leaving it upon the surface, expose to wind and sun, and ploughing it under eight and twelve inches deep, I can hardly see where such extremes will meet. One says the gases of the manure work upwards; another that the rain washes the essential part of the manure into the soil. If then, we plough manure in from four to six inches deep, shall we not get the benefit of the manure both upwards and downwards? This, at any rate, is my way of farming, as it is of the generality of agriculturists in England, and of some, at least, in this country. By ploughing in manure as advised by Mr. H. Poor, I do not see why wheat might not be raised plentifully in New England.

Another word as to the proper depth of ploughing. This depends upon the nature of the subsoil, and may vary from six to eighteen inches; but in general from six to eight or ten inches will be fully adequate to any useful purpose. The depth of good soil is usually very limited, and below this the plough should never go, or the manure will lose its effects. Good farmers do not deem it best to go to the full depth of good soil oftener than once in two years, and upon the whole advise shallow ploughing. In England the manure is ploughed in for all kinds of grains and roots, and and manure and compost heaps are managed in many respects different from what they are here.

Jeffersonville, Vt., Feb., 1868. E. H.

DISEASE IN HORSES.—ANASARCA.

Our correspondent, "D. F. J.," of Newark, who made an inquiry in the FARMER of April 4, may be interested in the following reply of Dr. Murray, Veterinary editor of the *Western Rural*, to a Mr. Carr, of Wisconsin. Mr. C.'s horse "was taken suddenly sick soon after commencing work, one morning. He appeared to be in pain, and in five minutes was in a foam. He was put into the stable and appeared to be getting better, but in about a week it was noticed that he was swelling under the belly. It continues to grow, running from his fore legs back about half way. Is pretty hard; if it is pressed with the finger it makes a dent, and is some time in filling up. To all appearance the horse was well when taken from the barn on the morning alluded to,—he had no cold."

The Dr. gave the following description of the disease, and directions for its cure:—

The disease your horse has is anasarca, which arises from a general debility of the system. This debility produces effusion and swelling. It is to be removed by liberal diet and *regular exercise*. Take two ounces each of sulphate of iron, powdered gentian, and powdered ginger, make into eight pills, and give one daily, and by those means your horse will be restored to health.

REMOVING WILD BEES.

I would like to inquire through your paper when is the best time in the year to remove a wild swarm of bees, from the tree to the hive, with the view of keeping them. C. M. S.

East Westmoreland, N. H., April 5, 1868.

YELLOW WATER IN HORSES.

I saw by the last FARMER that a certain disease was manifesting itself among the colts of Vermont, which I call yellow water. We had two horses troubled with it last spring, and two or three of the neighbors, one or more. I took three quarts of blood, and then gave the horse two or three quarts of a tea made of cedar boughs, twice a day, in his provender, with some mild physic,—I used salts and sulphur,—and the result was they all got well in a short time, and were put to harder labor last summer than ever they were before, and have not seen a sick day since.

April, 1868. DOWN IN MAINE.

WHY YOUNG MEN LEAVE THE FARM.

There has been considerable said in the FARMER about young men leaving the farm, and engaging in other pursuits. One of your correspondents appears to think it is owing to the girls leaving their homes and going to work in the mills, &c. But I do not think that is the only reason. Many farmers will not take an agricultural paper for their children to read, because it *costs* so much. Then, when their boys are old enough, they are sent to some school where almost everything is taught but a knowledge of agriculture. The result of such an education is that they return home, but not to work on the farm. No, they have got just enough of the "high school" to raise them above that. So they leave the farm for some more genteel employment, and the old gentleman has to lament that none of his sons will stay at home to help him carry on the farm, and he blames them instead of himself for the result. Now if he had taken two or three agricultural journals, and interested his sons in farming before they left home to attend school, they might have improved their opportunities in such a way as to have increased instead of destroying their interest in agriculture, which after all is as noble a calling as any young man can engage in. Adopt this course and I believe fewer parents would be left alone in their old age. Some may say all this is the dream of a boyish imagination, but I am personally knowing to cases similar to those to which I have alluded.

Biddeford, Me., March 20, 1868. J. W.

HOUSE-PAPER WORMS.

Many of us farmers live in the "old homestead," and the "slick worm," or "book worm," as it is often called, make sad work with the house paper, especially in rooms not much used. As this is the season in which the good wife wishes to "fix up," can you, or some one of your many patrons, tell of some way to destroy the worm, or how to make the paste and paper distasteful to them? Will some kind of poison in the paste answer the purpose? I know of several rooms in which the paper would look well were it not for the ravages of this pest. R.

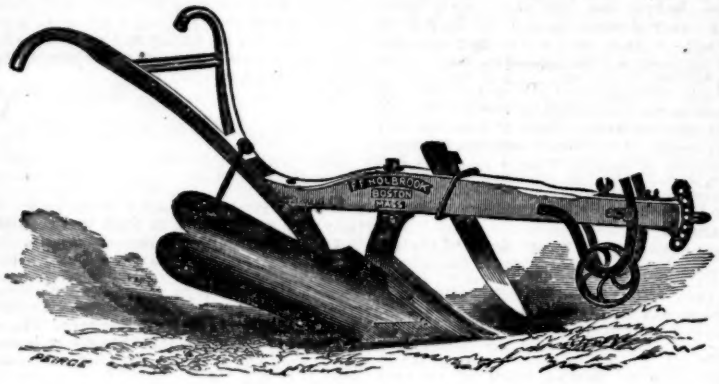
Somerset, Mass., April 2, 1868.

SORE NOSE IN SHEEP.

When my sheep went to pasture last spring, one of them had a sore nose. By the first of June it had spread all through the flock. Just at the right time an article in your valuable paper came to hand, and as it benefited me, and may benefit others, I will here repeat it. It was simply smear the nose with tar and sulphur. In my case it cured them at once, and I shall never let my sheep go to pasture again without it. DOWN IN MAINE.

April, 1868.

—Every garden should have a well assorted bed of useful herbs, such as sage, mint, balm, and other perennial herbs. There are also several medicinal herbs which may be planted with much advantage to the cultivator.



HOLBROOK'S PATENT SWIVEL PLOUGHS.

FOR LEVEL LAND AND SIDE-HILL PLOUGHING.

Since the introduction of the Mower and Reaper, it has been found very desirable to avoid the *dead furrows and ridges* left by the common ploughs, and lay the fields down level for mowing. The Side-hill or Swivel Ploughs heretofore made have been resorted to for level land ploughing, but they turn an imperfect furrows and clog in sticky soils.

Holbrook's new series of Swivel Ploughs are convex and elliptical in form of mould-board, and crack, disintegrate and pulverize the soil very thoroughly, and will not clog. They turn a deep, *flat furrow on level land*, as perfectly as the best Level Land Ploughs, and work well on hill-sides. The team performs its day's work easier than with the common or Level Land Plough, as in going the off ox or horse travels in the furrow, and in returning the near one walks in the furrow, and consequently both are relieved by the change.

These ploughs are furnished with wood or iron beams, as purchasers may prefer. The following sizes are made, viz: No. 0, a small one-horse plough; No. 1, a large one-horse plough; No. 3, a small two-horse plough; No. 5 and No. 6, each a two-horse or cattle plough; No. 7, for three horses or cattle; No. 9, for four cattle, and deep heavy work.

F. F. Holbrook & Small, 10 South Market Street, opposite Quincy Market, in this city, are the manufacturers.

For the New England Farmer.

FLOUR OF BONE.

Having seen a variety of conflicting results, reported in your paper, from the application of "Flour of Bone," I propose to add my quota of experience in regard to its effect. Having an acre of ground that had produced a fair crop of corn the previous year, and which I wished to sow with barley and seed to grass, I staked the whole off in strips, and marked them. Applied flour of bone to one division; lime to No. 2; and left No. 3 without any fertilizer, and sowed phosphate upon the remainder. Nos. 1, 2, and 3, appeared just alike, while the barley was growing; but that portion that received the phosphate was so much darker in color, thicker, taller and heavier, that the difference could be seen at the distance of at least one-fourth of a mile. The bone and phosphate were applied at the rate of 500 pounds per acre. So far, I was not particularly astonished at the result, as previous experiments had led me to expect that phosphate acted rapidly, while the effect of bone was slower in manifesting itself. I didn't write to the FARMER, and condemn the bone, but waited. About three weeks after the barley was harvested, the strip that held the bone, showed a far thicker and greener start of young clover than the rest of the field, and thus it went into winter quarters. Last spring the bone was

ahead again, the difference in its favor, as well marked and as striking as that caused by the phosphate, in the barley. The clover was thickest, tallest and heaviest. The second crop of clover showed the same result in favor of the bone. As some good farmers consider it bad policy to cut the second crop of clover, I eased my conscience by treating the ground to a coating of well-rotted manure, in the fall, directly after mowing. Now if that bone lets go and don't "hoe its row out," in the forthcoming crop of timothy, I trust I may live to report it.

"Do beans mix?" was a question asked in the FARMER, some three weeks since. Most assuredly, they do. I have mixed them several times by dropping alternate colors in same drill. The Horticultural and Indian Chief or Wax Bean will mix "with a perfect looseness." on every chance they can get, with poles four feet apart.

What fertilizer shall I apply to land that was heavily cropped with Swedes, the last season, to render a good crop of beans probable? Corn will not follow ruta bagas.

J. B. HOWE.

Petersham, Mass., March 20, 1868.

REMARKS.— Accompanying the foregoing were specimens of the crossing of the buff and dwarf Horticultural Bean, showing a curious mixture and blending of colors, including considerable dark red and white, neither of which appear on the parent beans. We suppose it is generally understood that beans are very liable to mix. Who can satisfactorily answer the last question?

For the New England Farmer.

CONSTRUCTION AND REPAIR OF ROADS.

The following essay by ELIJAH WOOD, Esq. of Concord, Mass, though written with reference to the roads of that town, and read before its Farmers' Club, contains principles and suggestions that are equally applicable to other sections.

To ride over a good road is an enjoyment which everybody appreciates, who has suffered the discomfort of traveling on a bad one; and it is very surprising that people that have the means should not make a greater effort to improve them. If a road is once built well, it will need but very little repairing for a long time, unless injured by heavy rains, or spring freshets. Our common roads are hardly ever made with much care; often being merely plowed, and the soil and poorest sand from the sides thrown over the centre, for the road-bed.

The idea should be kept constantly in mind, that the best built roads are the cheapest in the end, for a number of reasons:—the thoroughly made one costs but a trifle more; the repairs are of small amount; much heavier loads can be drawn with the same team; much wear and tear of teams and carriages are saved, and much perplexity and hard language from drivers avoided.

In what I have to say on this subject, I shall confine myself mainly to the form, the materials, and repairs.

Roads that are much frequented, or near large cities and towns, should not be less than thirty, and sometimes forty feet in width, with a side-walk of from five to eight feet, for foot travel; the exact width to be determined by the nature and extent of the traffic, as every road should be sufficiently broad to admit of the largest sized carriages which are used upon it to pass each other conveniently. There are many places where roads of twenty feet in breadth would suit the public convenience as well as if they were twice as broad. Now if a road is made one rod wider than is actually necessary, there is a loss of two acres in a mile. Still there is a serious objection to a narrow road in latitudes subject to heavy snows, for they are much more likely to be drifted, and therefore the expense of keeping them open in winter comes quite heavy on the districts. Narrow roads, too, are almost always in bad condition in the spring, which is to be accounted for, from the circumstance that all the carriages are obliged to go in the same place; whereas, if the road was wide, the teams would endeavor to keep away from the ruts, and therefore the track would be more evenly worn.

With respect to the shape of the surface of the road, every body agrees that it should be crowned; but people differ as to the degree of convexity. The proper convexity is to be varied by different circumstances:—First, by the different material of which it is formed,—soft materials being most likely to be worn into ruts and hollows, require to be laid more crowning, from their liability to wash, than hard materials. Secondly, it must be made more convex up a steep hill, as the falling water has a tendency down the track as well as towards the sides, and following the slightest impressions of wheels often wears channels from the top to the bottom of the hill. This may be avoided by bars, or water tables, across the road, made of the best material. These should be large and broad, according to the width of the road and steepness of hill, and at right angles to it, with their sides gently sloping, to occasion as little obstruction to carriages as possible.

The best material for a road surface is broken stone, one and one-half or two inches in diameter, covered with a layer of gravel; but as this process is expensive, we cannot afford the cost in districts thinly populated, and are obliged to use the material at hand,—sand, gravel, clay, loam, road-wash,—and *do* use them, without considering their utility or economy in the long run. Concord is very

deficient in good material for making durable roads. Blue gravel, the next most important article, so abundant in many of the neighboring towns, is hardly known here, and we must therefore make the most of what we have. It is seldom a gravel bank can be found in town, of uniform quality, although there are some that answer a fair purpose, but generally at rather long distances from the work, creating a heavy expense for transportation. Surveyors should not be allowed to put on the road such material as will be of no earthly use, but be required to cart the best that can be obtained, and none other, and do the work thoroughly and well, as far as they go, keeping constantly in mind the old adage that "once well done, is twice done."

The preservation of a road depends on the description of teams passing over it, and the first object is to keep it dry and free from water and mud. Repairs should commence immediately on the opening of spring, by filling up the ruts and hollows, repairing bars, taking out loose stones and correcting any other defects. When the road is much rutted, it not only retains the water, but the rubbing and jolting of the wheels into them wears out the road, the iron of the wheels, and the harness, and also wearies the team. The best service of the surveyor is, then, to keep the road surface smooth and a little crowning, so that water may find a free and easy passage to its proper drain, by scraping or carting just enough gravel, and nothing more, as over-filling creates unevenness, and is labor lost. Much expense of material is thereby saved, and the great end of road-making fully attained, viz: that of rendering it in all seasons, easy, safe, and pleasant to the traveller. It is a credit to any town, and a recommendation to any farm, that the roads through it are neat and in good order.

For the furtherance of this object, I will close with a few suggestions to the Club, which have occurred to my mind while writing, viz:—

1. That the town purchase for each highway district, a scraper of the most approved plan, which the Surveyor be required to use in early spring over his entire road, to level it, and that he be made responsible for the care of the same as long as he holds his office.

2. That a committee be appointed by the town every year, to advise with the Surveyor, directing when, in their best judgment, the work should be done, and to what amount, &c.

3. That no land-owner be allowed to enclose one rod of the public road without the consent of proper authorities; neither shall he be allowed to dig material from the road, without filling the same immediately with sand, to its original grade.

4. That the town direct the Surveyor to fill all places on the road side, where loam has been taken out, so that in future time trees may be planted and other improvements made.

For the New England Farmer.

WHERE WE ARE.

The papers inform me, if I read them aright, that the completion of the Pacific Railroad will place our Republic about midway between Europe and Africa on the one side, and the Asiatic continent on the other. I sometimes incline to the belief that we are somewhere in that vicinity already; and I am beginning to realize the truth of the statement,—made from time to time in our National Legislature,—that the whole world lies at our door. For if I were to advertise to-morrow for a Stormy Petrel, not forty-eight hours would elapse before the postman would bring me a letter from some enterprising individual, offering to send me a "trio" of Mother Cary's chickens for twenty-five dollars! And if I were to inquire for a decoy duck, it would surely come to hand,—guaranteed to be "a non-sitter, and an everlasting layer,"—and in all probability a ten dollar bill would just settle the score! I have a very decided liking for the feathered race. A few weeks ago I tried to purchase some Brahma fowls; and straightway came the assurance from an Eastern fowl-dealer that he would "spare" me a dozen pullets out of his flock, provided I would pay him ten dollars apiece for them! Now, would this accommodating gentleman have fulfilled his promise? I think he would; I believe that at that price he would have spared me a hundred. And the eggs of this variety were offered me for two dollars a dozen!

Yes, the politicians are right in their assertions as to the centrality of our location; for dwellers in out-of-the-way places have no such chances presented to them.

The planting season is close at hand, and the seedsmen hereabouts are doing a heavy business. These gentlemen do their best to gratify the wishes of their patrons, and their endeavors are generally successful. Wanting some seed-potatoes, the other day, I stopped at an out-of-town grocery, and asked for Oronos. The salesman directed me to a bin containing *red* potatoes. I objected to their color. "Very well," said he, "then you can have the *white* variety, for I had as lief sell you the one as the other." I congratulated myself on having fallen into the hands of such an agreeable personage, but at the same time I was forced to admit that he was lacking in particularity; and I was compelled to exercise my own judgment, after all.

Potatoes are bringing a high price, this spring, in this vicinity, although there is an abundance of them in the market. Yorks, Canadas, and other good varieties are being sold for about two dollars a bushel. The Early Goodriches are *said* to be somewhat scarce; and in view of this assertion, it is exceedingly gratifying to me to learn,—as I do from the advertising columns of the agricultural press,—that there are scores of good people not far away who will sell me a few bush-

els of this variety, and will charge me only nine dollars a barrel for them! And I can buy the Vanderveer Seedling for two dollars and a half a peck! Let me never cease to be thankful for having been born and bred in a Christian land! ESSECKER.

Salem, Mass., April 3, 1868.

REMARKS.—Why not always live right in the warm, cheerful centre of the world, instead of shivering on the cold, inhospitable outskirts? We have always preferred the laughing philosopher.

For the New England Farmer.

HOME MANUFACTURE OF "SUPERPHOSPHATE."

EDITORS OF N. E. FARMER:—It affords me much pleasure to respond to Mr. Winchester's inquiries regarding the home manufacture of "superphosphate." The cheapest and most convenient vessel or receptacle in which to prepare it, is formed by dividing in the centre with a saw, a common molasses cask, and using the two parts as tubs. Into one of these, turn half the contents of a barrel of finely ground bone, and moisten it with two pails of water, using a hoe in mixing. Have ready a carboy of sulphuric acid or oil of vitriol, and a cheap *stone pitcher* holding a gallon. Turn this out full of the acid, and gradually mix it with the bone, using the hoe. Fill it again with acid and add as before, stirring constantly with the hoe. The mass will froth up considerably, but will not run over if well stirred. Now add the remainder of the barrel of bone, mix well, and stir in *gradually three gallons more of acid*, und let the contents remain until cold, using the hoe occasionally if it puffs up, or effervesces much. When cold, mix with it a barrel of good dry soil or loam, *thoroughly blend it together*, and it is ready for drying. This may be accomplished by having some rough shallow boxes which can be moved readily, filled with the pasty mass, and placed in the sun. It requires a week or two of clear weather to dry it, and it must be *thoroughly* dried to grind well. The grinding is the most troublesome part of the process, as plaster mills are not accessible to most farmers. It must be well pulverized, and to *pound* it fine with a mallet involves considerable labor and patience; still it can be done. It is best to prepare the superphosphate in the *summer*, the year before it is to be used, as it can be more speedily and thoroughly dried in the hot sun, and then set aside and pulverized in the *winter*, when other work is not pressing. Two men will easily prepare a ton in one day, and it can be beaten up fine in two or three days. In turning out and handling the acid some care must be used not allow it to fall upon the skin or clothing. An old suit of clothing is best adapted to the work. A carboy of acid costs six or eight dollars, and can be bought of the druggists, to whom the empty vessel can be returned.

The writer has prepared many tons of this fertilizer upon his farm premises, and it has produced most marked and satisfactory effects upon crops; especially upon corn and roots. A ton of bone, and a ton of soil with the acid will give a little more than two tons of the powder, which will cost less, and produce much better results than most of the commercial fertilizers in the market. A gill is fully enough for a hill of corn. The bone should be finely ground. A coating of insoluble sulphate of lime forms around each particle of bone, and if they are of the size of a pea, action is suspended before decomposition is effected. It is folly to attempt to dissolve *crushed* or *coarsely ground bone in acid.* This must never be undertaken. It may be well for farmers to prepare at first, a small quantity of this superphosphate, and if they succeed well, and like it, the amount can be readily increased. JAS. R. NICHOLS.

150 *Congress St., Boston.*

For the New England Farmer.

STEAM PLOUGHS AND TRACTION ENGINES.

As the production both of a practicable steam plough and of a traction engine for common roads has elicited the best energies and taxed the ingenuity of inventors for a long time past, and many years of patient experiment have yet failed to produce an implement which shall be both simple and efficient, it may interest your readers to learn the following particulars regarding a machine constructed for the building of common roads, and yet which is used to perform both the offices referred to above.

The machine is called a "Self-track-laying Car," and was invented by Mr. Jesse S. Lake, Atlantic County, N. J. It consists of a truck sufficiently substantial to support an engine and boiler of ten horse power, which supply all the motive force. Over and around the wheels of the truck passes, on each side, an endless chain or band of flat bars of wood, (similar to the tread or track of the common horse-power so much used at our railroad stations) so connected and adjusted that, as the car moves forward, this band is laid upon the ground in front of the truck wheels and picked up as soon as the wheels have passed over it; thus supplying a uniformly solid and compact track for the machine. This enables it to travel over the roughest or softest ground with a reliable footing.

To this car are first attached a gang of ploughs with which to break up the ground, on which when fully prepared it hauls and distributes loads of gravel. Its usual amount of work is to start and pull four to eight two-

horse ploughs, according to the nature of the soil, which it easily accomplishes. In hauling the gravel or stones it will pull from twenty-five tons over soft ploughed fields to fifty tons over a level highway, drawing a train of the same kind of cars or trucks, but without the engine on them. It runs eight miles per hour easily on level ground with twenty pounds pressure of steam, and could easily attain fifteen miles at full pressure.

Although the truck, with boiler, engine, and all included, weighs about seven tons, it runs so easily that two men can push it over an ordinary road. The engine, which seems to be a most important part of the car, as it is the only one that Mr. Lake has ever been able to find adapted to such work, is known as the Hicks engine, made by the Salem Machine Co., of Salem, Mass. Being a double engine (and of course without dead points) and entirely enclosed in a steam-tight box, it can meet the incessant strain without any ponderous fly-wheel, and is fully protected from the great exposure to the dust and weather.

Here, then, seem to be found both the principle and the power, of which the agricultural interest of the world stands so much in need, and but slight modifications are needed to adapt them so that in a short time steam ploughs may be seen on all our prairies, and freight engines on all our highways. With this combination the farmer can build his roads, plough his lands, haul his manure, stones, fuel and produce, thresh his grain, saw his lumber and wood, and draw his crops to market. Similar engines are coming largely into use in France as auxiliaries to railroads, collecting and delivering freight at one's very door, miles away from the stations.

One of Mr. Lake's self-track laying cars is now at work in Atlantic County, N. J., and astonishes the natives. A few days since, while drawing three heavily loaded cars up a moderate hill, some thirty-five men made a simultaneous rush and mounted the train for the purpose of stopping it, and were quite confounded at the little giant continuing its uphill course with its increased load without the slightest hesitation or abatement.

PROGRESS.

Salem, Mass., April, 1868.

For the New England Farmer.

THE FOUNDLING APPLE.

Accompanying this communication, I send you an apple which in some respects far excels any variety known in this region. It is a fair sample of the "Foundling," grown on a tree which I obtained in a lot from the nursery of the late S. C. Wheeler of Groton, Mass., in 1855. Out of twenty-four trees bought of him at that time not a single tree has shown the least degree of disease of any kind, or suffered in the least from our severe winters. Set on some half dozen different farms, every one of them is thrifty, has made a large, bushy top near the ground, and in every respect seems to be as hardy as a beech or maple.

Had I set 100 of them at that time my farm would now be worth at least $1000 more in consequence.

There is one peculiarity in this apple not possessed by any other known to this region. While it ripens about Aug. 20, to Sept. 1, in Massachusetts, here it is beginning to be eatable early in September, and not fully in prime till near October, or about a month behind its ripening in Massachusetts. There it is called a fall apple, while here the same tree will furnish one with dessert from September till March and even April, with no extra care. In this respect I think it has no rival.

The specimen I send you has probably past its prime, but is taken from a barrel that were sound and fresh as Greenings, March 1st, and with no care save hand picking and barreling.

From an extensive knowledge of the various localities in Northern Vermont, gained while canvassing for the FARMER from 1853 to 1862 inclusive, I am convinced that this apple is the best to be found for this region, and if I were to confer a favor on my old patrons and friends, in the line of fruit, I would unhesitatingly recommend to them the cultivation of this apple.

It originated, a seedling, on the farm of Rufus Moors in the southerly part of Groton, Mass., or was so claimed by Mr. Moors.

There seems to be difficulty in getting a supply of the trees at the nursery or nurseries in Massachusetts, for the reason they grow too *scraggy*, (or at least this is my experience in trying to get supplies for my farm), and take up too much room.

This same "scraggy" or low-topped propensity is the very thing that recommends it for this latitude, and nurserymen will do well to bear it in mind.

Now, Mr. Editor, allow me to add that I have no ax to grind, no trees for sale of any kind, but have four bearing trees that have borne *every* year for the last eight years, and will *give* to any one scions from those trees. I have scattered many in years past and shall be happy to do so still, as a lasting legacy to my old friends of the NEW ENGLAND FARMER.

GEO. L. NUTTING.

Randolph, Vt., April 10, 1868.

REMARKS.—The apple was duly received, and tested the 22d of April. Something of the sprightliness of its prime was undoubtedly wanting; still it was quite juicy and good-flavored, and in connection with friend Nutting's reccommendation we think the fruit, particularly in the northern part of New England, is worthy of a fair trial Mr. Cole, in his Fruit

Book, published in 1849, calls it a new variety, and says that it originated in Groton. He gives "Groton" and "Shirley" as synonyms. The following is his description, to which the specimen sent corresponds very well: Large; flattish-round; ribbed; greenish-yellow, mostly covered with bright red; stem medial, very deeply sunken; calyx large, open, in a narrow, very deep basin; flesh yellowish-white, quite juicy, of a sprightly, sub-acid, aromatic flavor. Aug. and Sept. Moderate grower, good bearer. One of the handsomest and best.

TRANSPLANTING IN THE NIGHT.

Occasionally it becomes necessary to transplant a valuable tree or shrub while in leaf or blossom, and thus try to save it, or lose it entirely. This occurs where a building is to be erected, or a road laid out, or for some other cause. In Cambridge, near Boston, a bank was to be built on the spot where a large and fine pear tree stood. This was removed—but not in the night—and is now a productive tree. The cost of removal, however, was considerable. A trench was cut several feet wide and sufficiently deep to go entirely below all the small roots, about which a ball of earth was left and encased in stout planks. To this, sufficient power was applied to slide the whole along on the bottom of the trench, until it came to the spot where it was to remain.

A gentleman in whose powers of observation the editor of the *Working Farmer* had confidence, made the following experiments:

He transplanted ten cherry trees while in blossom, commencing at four o'clock in the afternoon, and transplanting one each hour, until one in the morning. Those transplanted during daylight shed their blossoms, producing little or no fruit, while those planted during the darker portions maintained their condition fully. He did the same with ten dwarf pear trees after the fruit was one-third grown. Those transplanted during the day shed their fruit; those transplanted during the night perfected their crop and showed no injury from having been removed. With each of those trees he removed some earth with the roots.

We are well aware that when plants are accidentally frozen in green-houses it is customary to render the house dark before applying cold water to thaw them; and that when this is not observed they are injured, while if entire darkness be secured during the operation, many of them are saved. But the experiment of our friend seems to have but little analogy to this fact and is entirely new to us.

The effect of night transplanting, we presume, is the prevention of excessive evaporation. The leaves of plants take in moisture, and other properties, during the night, and give them off in the day time,—and when we consider the vast number of pores or mouths, through which they do this, we shall not think it strange that a tree transplanted when exposed to the sun, should wilt and cast its leaves and blossoms.

In certain plants growing in damp places a square inch of a leaf will have 40,000 pores, while on the same space of a leaf growing among dry rocks, there will be 70,000 pores, or mouths. Then look at the immense superficial surface which the leaves of a tree present, and we shall no longer wonder that it would rapidly breathe away its life, unless constantly re-supplied by the action of the leaves in the night. It is probable, too, that not only excessive evaporation is prevented by transplanting in the night, but that the action of the leaves has not been so much disturbed as to prevent the accumulation of moisture and the formation of carbonic acid during the night.

That the evaporation of which we have spoken does actually take place, there can be no doubt. "We do not indeed see vapor flying off from the surface of plants; neither do we from that of animals, except when the air is so cold as to condense the vapor; yet we know that in both cases perspiration is perpetually going on, and it would appear that in plants it takes place more abundantly than in animals. If a plant covered with leaves is placed under a glass vessel, and exposed to the sun, the sides of the vessel are speedily covered with dew, produced by the condensation of the insensible perspiration of the plant. If the branch of a plant is placed in a bottle of water, and the neck of the bottle is luted to the branch, so that no evaporation can take place, nevertheless the water will disappear; and this can only happen from its having been abstracted by the branch, which lost it again by insensible perspiration."

In Lindley's *Theory of Horticulture*, in which he attempts to explain the principal operations of cultivating plants upon physiological principles, the reader may find many exceedingly interesting and instructive facts relating to the garden and the farm.

—English dairymen object to the establishment of cheese factories on the ground that they will deprive their wives and daughters of an honorable and healthy employment, and by relieving them from labor lead to idleness and extravagance.

OUR "NATIVE" CATTLE.

After alluding to the introduction of European cattle into Mexico, as early probably as 1525, which were undoubtedly the progenitors of what are now known as "Texan Rangers," Mr. Allen in his new work, gives the following brief summary of the introduction of neat cattle into the United States and Canada.

In what are now the "United States," the first English colonial settlement was made in Virginia, on the James river, in the year 1607, by a colony of a hundred men, which, by suffering, disease, and want of food, was reduced within a year, to thirty-eight. In 1609, by new emigrations, the colony was increased to five hundred persons; but in a few months they were reduced by death to sixty. Many cows were carried from the West India Islands to Virginia in 1610, and 1611. In succeding years more adventures came out, but in 1622, three hundred and forty-seven men, women and children were massacred by Indians, and the colony, in effect, broken up. Whether their cattle were also destroyed, we have no account; but the settlement was soon after renewed under better auspices and protection, and neat cattle were further introduced and propagated.

New York was first settled in the year 1614, by the Dutch. That colony, after some vicissitudes, prospered. The first importation of neat cattle there, is said to have been in the year 1625, from the mother country, Holland, and they rapidly increased in numbers, both in breeding and further importation.

In 1620, the English Plymouth colony landed in Massachusetts. In 1623, further English colonies came out and settled at Boston and in New Hampshire. In 1624, the first arrival of cattle entered Massachusetts Bay. These were soon followed by other arrivals. New Jersey was settled by the Dutch in 1624, and Delaware by the Swedes in 1627, who brought cattle with them. The early records of New Hampshire state that in the years 1631, '32 and '33, Captain John Mason made several importations of cattle into that State from Denmark, to supply the Danish emigrants who had settled on the Piscataqua river. These Danish cattle were coarse, large beasts, and yellowish in color. Settlements were made in Maryland in 1633; in North and South Carolina in 1660 and 1670; and in Pennsylvania in 1662, all by the English, who either with the first settlers, or soon after, brought cattle over, chiefly from the counties nearest the ports from which they sailed. In all probability, numerous importations of cattle were annually made into the several colonies, during successive years, as the emigrants came in rapidly, and the few early importations, with their increase, were insufficient to supply their wants. That cattle multiplied, both by natural increase and importation, is evident. We see it recorded, that in the year 1636, a party of emigrants went out to settle the town of Northboro', Massachusetts, thirty miles west of Boston, and in a company of one hundred men, women and children, they drove with them one hundred and sixty cattle—and that was but twelve years after the first importation into the colony.

From these diverse and miscellaneous beginnings, our "native" cattle originated. Of what distinctive breeds they were selected, if selected with reference to breed at all, we have no information, nor, at this distance of time, can we be at all certain. Distinct breeds did then exist, well defined in their characteristics, both in England, and Scotland, and we are to presume, that needy and necessitous as the emigrants mostly were—going out for "conscience sake," as many of them did, and in a hope to better their fortunes with all—they paid little regard to breed or race in their cattle, so that they gave milk, performed labor, and propagated their kind.

As the colonists grew in numbers, and prospered in gear, their cattle, now become a a leading branch of husbandry, aided much in their subsistence. Families of considerable wealth from "home," began to add their numbers to the earlier emigrants, and brought with them domestic stock of various kind, provided them forage, and gave them shelter, and in some instances, probably, selected choice specimens from favorite breeds in the localities from whence they came, with which to improve those previously imported, or their descendants, the then native herds. But in a new country, harrassed by hostile savages, difficult of locomotion and intercourse with each other in distant settlements, their cattle were localized and confined to their own immediate neighborhoods, pushing out into new districts only with the adventurous parties forming settlements, where they could, of necessity, pay little attention to selection or "improvement" in their herds. They took such as they had, or such as they could get, at the least possible cost, as "browse" for the first few years was their principal forage in winter, "leeks" in spring, and coarse grass in summer and autumn for pasturage. The best they could do was to provide food for their families, and let their cattle shift for themselves. We presume however, that the earlier colonists, having become well settled and thrifty in circumstances, cared well for their herds and measurably improved their quality.

Thus, undoubtedly, stood the condition of the neat cattle of the colonies down into the years 1700, and after. We have accounts that, as the merchants of the sea-coast towns grew rich, some enterprising ones made importations of choice breeds from England, which were driven into the country neighbor-

hoods, and very considerably benefited their common stock.

In the year 1608, Quebec, in Lower Canada, was founded by the French, and soon afterwards, colonists came in considerable numbers from the western coast of France, and brought with them the little Normandy, or Brittany cattle, closely allied in blood, appearance, and quality, to the "Alderney" cows of the Channel Islands. They are now propagated in all Lower Canada, and throughout the many ancient French seignories in large numbers, forming their principal stock of neat cattle. They proved excellent milkers, hardy, easy of keep, and profitable for the dairy. They are also tolerable for the yoke, and for beef. In their remote distance, and limited intercourse with the people of the English colonies, it is not probable that their herds became intermixed. We have no accounts of the kind, and the peculiar characteristics of the cattle now there, after nearly two hundred years of acclimation and breeding, show no relations with the New England stock of our Northern States.

REMARKS.—Our cattle market reporter informs us that large numbers of Canada cows and heifers are annually sold at Cambridge and Brighton. Though very small and inferior looking animals, they give very good satisfaction as milkers. They are sold at low prices, and the drovers often laugh at those who pay high for petted Jerseys, and are unable to perceive the same "blood" and the same "points" in these little "Canucks," whose hard usage and hard climate have given them a rougher coat and a somewhat countrified appearance.

WHEAT IN DRILLS.

Mr. Gilpin, of West Iowa, Pa., in a communication to the *Rural New Yorker*, says he seeded an acre of wheat in drills, twenty inches apart, using three pecks Mediterranean wheat. In the spring, when the ground had become sufficiently dry to work, a small garden hoe harrow was run between the rows, working three inches deep. This was done only once.

"The wheat took a rapid start and outgrew the rest of the field. As the season advanced it grew tall and strong, and no amount of wind or rain had any effect to lay it down. When the heads formed their greater length was apparent. It was backward in ripening, and the rest of the field was cut and hauled in before this was ripe. Now, for the result: the experimental wheat yielded twenty-three bushels to the acre, and the rest only nine bushels; the quality of each was about the same.

Too many plants of any kind to the square yard or rod invariably crowd and starve one another. Till the ground deeply and thoroughly, and have no more plants than will have room to develop their roots and leaves perfectly, and you will see longer and better filled heads of wheat or corn than can grow where plants are crowded by the use of too much seed, or starved by defective cultivation. Isaac, the son of Abraham, probably did not plant over a peck of wheat on an acre, which being hand hoed, and duly irrigated, gave him one hundred fold or one hundred pecks on an acre.

Herodotus informs us that the province of Babylon raised wheat at the rate of two hundredfold for the seed planted. From this statement it is a legitimate inference that the people used about a gallon of seed to the acre. If so, 200 gallons harvested was about twenty-five bushels to the acre. Wheat-growers in the south-west seldom sow more than a bushel of seed to the acre, and this often among standing corn, the stalks being cut near the ground in the winter. The seed is ploughed in."

Will Mr. Gilpin, or some other careful observer repeat the above experiment, using a half bushel of seed only to the acre, and make another experiment using only a peck of seed, and make known the result? By a series of such experiments we may ascertain the amount of seed that will give the largest crop. There can be no doubt that stirring the soil among wheat, by the hoe or harrow, is as beneficial to the crop as it is to corn.

CATTLE FEEDING IN IOWA.

A correspondent of the *Prairie Farmer*, at Vinton, Iowa, having tried the Illinois plan of turning his cattle into the corn field to help themselves and to tramp mud for exercise and for bedding, concluded it did not pay, and adopted a new plan after this wise:

My lot, twelve to fourteen acres, and hilly, is surrounded with timber. In the fall I made shedding for seventy-five head of cattle, (number on hand,) eight rods long on north side, with wings on east and west sides, and open to south. In the centre is a large straw stack; and I kept building as fast as they would destroy it. Cut thirty acres of corn, in fall, before frost, and shocked same in field. This is better than hay for a change. Fed shocked corn once a day, at night; and "snapped" corn in the morning, with timothy and clover hay at noon. This method of feeding kept the cattle well bedded, as they would eat nothing but leaves of fodder and corn. Fed shocked corn with an eye to bedding. Had a separate lot for hogs, and drove them out when we fed shocked corn.

To sum up:—My cattle cost me from 2½ to 3¾ cents per lb. Sold fifty of same in January, to be delivered the 29th day of February, for 6 cents per lb., to be weighed in the yards at home. I fed about forty bushels of corn to

the head, and all the hay they wanted to eat. Now, if you will figure out the "keep" by my method, the result will be—made some money.

For the New England Farmer.

DOES IT PAY TO USE COMMERCIAL MANURES?

This is an important question. After the farmer has used all the manure he can possibly make on his farm, I think he can use to advantage many of the fertilizers in the market. I have used more or less superphosphate of lime for several years past, but with varied success. The brands I have used have been Coe's and Bradley's, from Boston. There has not seemed to be that uniformity in the material or in the manufacture, in different years, that is desirable. The past season, I used several barrels manufactured by Paddock, Dean & Co., which proved the best I have ever used. I mixed two parts of fine soil or dry muck with one part of phosphate, using it in the hill for corn at the rate of 300 pounds of phosphate to the acre. The soil was loam, well manured on the sod with stable manure, turned under in the spring just before planting. Where I did not use the phosphate, the corn yielded one-third *less*, by actual weight, than where I used the phosphate. I am sure it paid me more than double the cost. It has one advantage over stable manure in the hill, —it grows no weeds, and breeds no worms. I used it on India wheat on very poor land. Where I put the phosphate at the rate of 200 pounds to the acre I had a good crop; on the other barely enough to pay for harvesting.

JONATHAN LAWRENCE.

St. Johnsbury, Vt., 1868.

TIME TO CUT TIMBER.—A correspondent of the *Southern Cultivator* in communicating the following experiments, remarks that the best time to cut timber is when in full leaf—July and August—and that the knowledge would have been worth thousands of dollars to him, had he possesed it years ago:

Lot No. 1, was cut in July 1860—house logs to put up cabins; red oak. They were put up, but not covered; been exposed the whole time; still sound.

No. 2 was square timber for gin house, of red oak, post oak and over cup, was gotten out in December, 1860; piled and covered with plank till 1863; exposed since that time; sound on the outside about two inches; perfectly rotten in the heart; red oak the worst rotted.

No. 3 was of same kind of timber, subject to more exposure; gotten out in June, 1861; much sounder than No. 2; green timber sawed in July, 1861; subject to same exposure as No. 2; still quite sound.

EXTRACTS AND REPLIES.

PREMATURE FALLING OF GRAPES.

I have a wild grape vine which has been pruned for several years, and stil the fruit drops off as soon, or before it is ripe. Will you be kind enough to inform me through the FARMER, if there is anything I can do to prevent this. CATAWBA.

Weymouth, Mass., April 17, 1868.

REMARKS.—Can any of our grape-growing friends afford "Catawba" the desired information? That formidable disease, the mildew, causes the fruit to drop prematurely; and so do several of the varieties of the "rot." Most of the wild vines do not bear trimming very kindly, and possibly the vital force of the vine may have been impaired by this means. Perhaps, too, this may be only a youthful freak of this particular vine which it may outgrow in due time.

THE YEW OR YEW PINE.

Can you or any of your correspondents inform me where the "Yew" or "Yew Pine" is found in such forests as grow in certain parts of a few counties in Western Virginia. Here in unbroken forests, where two or three hundred trees stand on an acre, it shoots up 150 or 200 feet, with scarcely a limb on the lower half of its trunk, spreading out its spear-like top into an unbroken wilderness of dense foliage that for ages perhaps has never been penetrated by a single sunbeam. While thus effectually shielding the surface from the sun, it appears to appropriate every power of the soil. Thus grown, the timber is exceedingly valuable; being very elastic, strong and of such fine grain as to require the sharpest tools to work it, and is employed for building and other purposes. But when standing alone, or mixed with other trees, it is of comparatively little value, being short, full of knots and limbs and greedily occupying a large space. It, however, makes a delightful shade-tree, forming a thick egg-shaped mass of foliage, that few of the other evergreens can equal. H.

West Virginia, April, 1868.

REMARKS.—The Yews are considered by some botanists as constituting merely a sub-order of the pine family. But so far as we know, they generally seem to prefer solitude, being unsocial in their habits, and we think such a forest as our correspondent describes is very rare. The Yews in the church-yards of England are of very great antiquity, and of extraordinary size. They are even supposed to mark out the sites of Pagan and Druidical temples which existed before the introduction of Christianity. The use of the Yew for making bows was familiar to the earliest Greek and Roman authors; and at one time in Switzerland its use was prohibited for any other purpose than bow making.

TO PREVENT POTATOES FROM SPROUTING.

From more than fifty years' experience, I am satisfied that whether intended for late planting or for the table, potatoes that have not been sprouted are far more valuable than those that have been. The first sprout that starts from a potato is stronger and better for growing than those which start afterwards.

A convenient and easy way to prevent sprouting is to put the potatoes into barrels carefully filled and head them up. Then lay the barrels in a sin-

gle row on joists or poles which extend some three feet beyond the row of barrels, so as to give room to roll the barrrels half way over. They should be put in the coldest place you can find. Every day if convenient, certainly as often as three times a week, roll each barrel half way over. This places every potato in the barrel bottom side up. The sprouts which start both from the upper and lower sides of the potato instinctively point upward; consequently by turning the barrel the perpendicular of the sprout is reversed, and is put in a similar condition to the man who halts between two opinions, and, like him, not knowing what to do, accomplishes nothing. Twenty barrels, arranged as above directed, may be turned bottom upwards in about one minute. A. G. SHELDON.

Wilmington, Mass., April 18, 1868.

BUILDING FENCE.

I saw directions in your paper a short time since for building board fence which differ somewhat from my plan, which is as follows:—First, instead of setting the posts three feet deep to prevent heaving, I dig the hole oval, or long, instead of round, about two feet one way and the width of the spade the other, and not over two feet deep, with the centre six inches deeper; the hole being dug across the line of the fence. About six inches from the lower end of the post, I bore a two-inch hole through it and drive a strong pin through, so as to project about a foot on each side. Set the post in the hole and tamp the dirt around the bottom and up level to the top of the pin, then lay a flat stone or piece of board or large chip on the pin each side the post, and fill up with dirt or small stone. This I think is the surest and cheapest way to prevent heaving that I know of, and it also prevents the fence from being blown over, the pins being crosswise the fence serve as braces to the posts.

To prevent the damage to fences that often occurs in consequence of the unequal heaving of posts, I prefer to have the boards short enough to dispense with a middle post, and have them held only at their ends. My practice is to lap the ends of the boards on the post, and then place a narrow strip of board in front of the post, and drive one large nail or spike through the strip, through each set of the lapped boards, and firmly into the post. This holds all secure and allows the boards to hinge on the nails, in case of heaving.

Williston, Vt., April, 1868. F. C. NARAMORE.

THE LEGHORNS.

The Leghorns are a hardy medium-sized fowl, of a quiet disposition, persistent layers and non-sitters, of a pure white color, yellow legs without feathers. The cocks have large single combs, which should be perfectly erect, full wattles and large white earlobes. The hens have usually large combs, lopping like those of the Spanish. They mature very early. A good healthy pullet will lay at five months old, and often before; and when the chickens reach the age of one month, you can easily distinguish the hens from the cocks, and at four weeks of age the latter will be strutting about and crowing. Those who breed them in numbers should carefully adopt a system of points, towards which their efforts should be directed, and thus the high reputation of this race may be perpetuated. MAT.

Concord, N. H., March 15, 1868.

RANDOLPH, VT., FARMERS' CLUB.

This institution closed its sixth annual course of meetings on Monday evening, April 6,—one of the most pleasant and profitable series of meetings it has ever held. One of the last transactions of the Club was the election of officers and other preliminaries necessary to holding a town Fair next autumn. It is hoped that all tillers of the soil, all breeders of stock, mechanics, inventors, patentees and lovers of the fine arts in the vicinity will bear this in mind and prepare to put the best foot forward. The Club meets on the first Monday in June to make further arrangements. N.

Randolph, Vt., April 20, 1868.

A PIG WEAK IN HIS HIND LEGS.

I have had a small shoat two months which weighs about a hundred pounds. It has done very well until the last week. He now appears to be weak in his hind legs. He eats well, his eyes look bright, but it is with difficulty that he stands on his legs. If any one will tell me through the FARMER what ails him, and what to do for him, I shall be much obliged. A READER.

West Townshend, Mass., April 5, 1868.

REMARKS.—Our own opinion is that the trouble with your pig is the result of high breeding, high feeding, and want of exercise. We have known many "pampered" pigs of about the size of yours, and from eight to twelve months of age, that were in like manner more or less "gouty," and suffering the penalty which is affixed by nature to a life of indolence and luxury. The root-hog-or-die breed know nothing of this "disease." Let the pig have some ashes, lime or other alkalies, sods, &c., to root over, and a good fast; if this does not put him on his feet, give him one tablespoonful of epsom salts and one of sulphur mixed in a little bran slop every day until a free passage is secured, when the salts may be discontinued, but a little sulphur may be given occasionally. In extreme cases a tablespoonful of copperas may be given in daily doses for a week. But generally abstinence from food is sufficient.

HOT BED.—SALT AND LIME FOR HAY, AND LIME FOR POTATOES.

Early gardening in this town is attended with some difficulties this season. To-day I dug through a snow drift three feet deep, and finding my hot bed, which I made a few days ago, in a proper condition, deposited my seeds therein.

You asked a few weeks ago for reports of the effects of salt and lime applied to hay. I applied it to early cut hay, put in without as much drying as usual; to late cut hay put in the same, and to hay which got wet after it was partly cured, and on account of a succession of poor days could not be perfectly dried. In every case the hay came out exactly as I should have expected it to come out if nothing had been applied; the early cut, of a bright green color, fragrant, just the thing for milch cows. The late cut did not feed out so clean, and cows in milk shrank considerable on it. That which got wet none of my stock wanted, and it went for bedding.

I did not notice as the health of the stock was in any way affected by the mixture. This year's experiment would lead me to conclude that the mixture is harmless and useless.

I think that hay, both early and late cut, may safely be put in with less drying than is usual, without any application of preservative or curing compounds. But would recommend that it be allowed to lay up in the barn as light as possible a few days, and that care be exercised to fill the pitching hole with the dryest. If the hay gets

wet after it is down, thorough drying is absolutely necessary.

And while we have the lime question in mind. Some one said—and I have seen the item in several agricultural papers—scatter slaked lime over your potatoes when you put them in the cellar and they will not rot. I do not know but that is so. But if the potatoes are not perfectly dry it adheres to them, looks bad when you take them to market, and makes it very disagreeable for the ladies when they come to prepare them for the table. L. E. BICKNELL.

Windsor, Mass., April 11, 1868.

EXPERIMENTS.

I consider that there is scarcely any other department of science or art in which conclusions supposed to be drawn from experiments, need to be so carefully scrutinized as in agriculture. So many unknown elements enter into the great natural processes of vegetation,—so many disturbing influences which we can neither understand nor control, affect them—that all our attempts to ascertain the laws and rules by which they act, by what are termed experiments, should be watched with the greatest care, and the supposed results taken with very many grains of allowance. The seeker after knowledge ought constantly to ask himself whether such and such a result may not be attributable to some other cause than the apparent one, or than the one he hopes to fasten it upon. No conclusion ought to be considered as reached till after the most thorough examination of all the facts and conditions in the case.

Now, Mr. Editor, I do not say this to throw discredit upon the many very valuable reports made in your columns by your numerous intelligent, practical correspondents, but to induce them to use greater care in their studies of nature; and also to afford a hint to men, who, attempting to accomplish like results with those thus detailed, by using the same method, yet failing of success, attribute their failure to the fault of the process, when in reality the error should be looked for in a totally different direction.

POTATO RAISING.

Having read and heard much about the effects of the various methods of using potatoes, as seed, I resolved last spring to try them in several different ways, and see what would come of it. I had a piece of ground which was of a uniform quality in every respect. I prepared it all alike, then planted as follows:—

Four rows of butts, two pieces in each hill, hills ordinary distance apart.

Then four rows, seed ends exclusively, same as above.

Then four rows, whole potatoes, fair size, one in a hill, somewhat nearer together than before.

Then four rows, small potatoes near together, one in a hill.

Then four rows, two small potatoes in a hill, ordinary distance.

Then three pieces of potato mixed, just as they would cut up, seed and butts together.

When dug, I let them lie on the ground so as to get a view of all at once, in order to ascertain if any perceptible difference could be seen in the field. The conclusions I reached were these. The tops were somewhat more healthy and vigorous where the butts were planted alone. In digging and hoeing I found greater convenience in the rows where the single whole potatoes were put; not nearly so much labor being involved in either operation, as where there were two or three bunches of tops and clusters of tubers in the same hill. But, upon the whole, I am forced to confess, that the quantity of potatoes gathered did not materially vary through the whole piece of ground; though there probably were more small ones where small potatoes were put in for seed. The only result I can reach from the whole experiment is, that for economy of work and material, from first to last, I should recommend the use of whole potatoes, fair size, one in a hill, and the hills near together. Good barnyard manure was spread and ploughed in, then a half pint of ashes and hen manure, equal parts, was put into each hill.

If this result coincides with any other man's experience, I should like to know it. It would be interesting to inquire whether either of the methods I have above specified, would, by being followed up, year after year, improve or injure the crops; and perhaps herein lies the most important point of all. Men will take a good bull and cow and make from them by patience and skill a breed of cattle better than either of the progenitors; but in matters of seeds we rarely have the requisite patience, and hence may fail of reaping the best results from our labor.

FARM MECHANICS.

Will you allow me, though not exactly a farmer, to say, that in my opinion, the NEW ENGLAND FARMER, as now conducted, is the most valuable periodical for the use of the agriculturists of New England, that is published. If I were to venture a suggestion, it would be to give us somewhat more on the mechanic arts and processes, as applied to agriculture. The farmer must be almost a "Jack at all trades" now; and as time goes on, and one machine after another is added to the list of farm implements, knowledge of mechanics will become almost as necessary to the successful farmer as of agriculture. Some form of the steam engine promises, at no distant day, to be as common among our hills and valleys as are now horse and ox teams, and perhaps will soon take the place of them for many purposes not now dreamed of.

DICTIONARIES.

I noticed a short time since an editorial recommendation of Webster's Dictionary. This is a great and valuable work, and *almost* good enough for anybody; but could you not find room to mention Worcester's Dictionary, as at least of equal value. In spelling and pronunciation very many wise men prefer the latter, in so far as it differs from the former. C.

Claremont, N. H., 1868.

REMARKS.—We use and highly prize Worcester's dictionary, and accept it as authority on several controverted lexicographical points; still, by way of reference and illustration, Webster's is much the most frequently used, partly perhaps the result of association, as our first lessons in reading, spelling and picture study were in his primary school books.

BUYING TURKEYS.

Noticing, some time since, in your paper an article, written by H. A. Sumner, Brandon, Vt., on rearing turkeys, I wrote to him last fall to know what weight he could promise, and at what price he would sell a pair of turkeys. His reply was that he hoped by Christmas to be able to fill orders for spring turkeys, weighing thirty pounds per pair, for $8; yearlings, weighing forty pounds per pair, at $10. I enclosed $10 for a pair of yearlings. In return I received a pair weighing 42½ pounds,—gobler 25½, hen 17 pounds. Mr. S. says that seventeen pounds is the largest hen he has as yet been able to raise. He had a tom at home of same age, weighing 28½ pounds,—three pounds more than the one he sent me. I received as a favor one spring hen weighing 13½ pounds. The box was well supplied with corn; and although

three days on the road the shrink on arrival was only one pound. The three at his door weighed 56 pounds; at mine 55 pounds.

Piermont, N. H., Feb., 1868. N. SPENCER, Jr.

EXPERIMENT WITH MANURES FOR CORN.

I am much interested in reading the NEW ENGLAND FARMER, particularly the "Extracts and Replies." Willing to do something towards keeping up this department of your excellent paper, I send you an account of my experiment with corn. I planted, May 25, five rows—fifty-five hills in a row—four feet apart each way. In No. 1, put a large shovelful of first-rate manure in each hill; in No. 2, no manure; in No. 3, 1½ bushels of compost, being a mixture of plaster ashes and hen manure; in No. 4, twenty pounds Bradley's XL Phosphate of Lime, thoroughly mixed with the soil; No. 5, one bushel Lodi Poudrette. Husked the corn on the hill and weighed the ears of each row separately.

	Sound.	Unsound.	Total.
No. 1	76 pounds	5 pounds	81 pounds.
" 2	42½ "	6½ "	49 "
" 3	60 "	4¼ "	64¼ "
" 4	69 "	2¼ "	71¼ "
" 5	59 "	3¼ "	62¼ "

Land poor, gravelly, moist; was turned over in September. No manure spread.

From this experiment it will be seen that the row with manure in the hill yielded the largest quantity, although the one with phosphate had the least unsound corn. J. M. M.

Raynham, Mass., April 20, 1868.

PAID FOR A FARM, LOST IT, AND TRYING AGAIN.

When I was twenty years of age, I bought a farm of sixty-seven acres on credit, in Tionesta, Pa. In the course of a few years I paid the whole, and had a large orchard of apples, pears, peaches, &c., of the choicest varieties, mostly from Mount Hope Nurseries. When the war broke out, I enlisted and was sick for a long time; in fact, until the expenses took my farm Last fall I went into the lumbering business, but trade has been so dull that I cannot make a living at it. I have now rented or leased a small house and barn at this place, with six acres of land at the small sum of seventeen dollars a year. On this place there is plenty of lime, stone coal, and wood. At a sawmill, half a mile distant, I can get plenty of sawdust by hauling it away. I hope to make my little patch produce more money than some of the fifty-acre farms in this vicinity. Please change the direction of the FARMER, accordingly, as I cannot, though rather poor just now, do without it. D. J. STOW.

Big Bend P. O., Scrubgrass,
Venango Co., Pa., March 23, 1868.

REMARKS.—With your experience and pluck, we cannot doubt that you will succeed, if you have recovered your health, which many of your brother soldiers have failed to do. The value of sawdust depends much on the kinds of wood from which it is made. Mr. F. J. Kinney, of Wayland, Mass., who has used it extensively, stated, in the FARMER, of 1862, that the best was from hard wood, hickory, oak, maple, birch, &c.; the second quality, from poplar, basswood, chestnut, &c.; and the poorest from spruce, hemlock, pine, &c. Sawdust is valuable, first as an absorbent of urine, &c., in stables and yards; secondly, it is worth something for forming vegetable mould. When used as an absorbent it should be dry; but when the direct object is vegetable mould, it should be subjected to fermentation in the heap. Most likely you can use it in both ways; by drawing a quantity in dry weather to be housed and used as a bedding for your animals and to keep your privy and house slops sweet and tidy; and allow a part to ferment and rot in heaps out doors.

Mr. Kinney used 100 cords in nine months as bedding for two horses, seven cattle, and several swine, and says he never smelt a disagreeable odor about his stables while using the sawdust, unless it was allowed to burn. In the stables, the floor was covered about six inches deep, and as fast as it was saturated it was shoved into the manure cellar, where it was trampled as hard as possible. He soon found that it must be turned, or something else done, to keep it from fire-fanging. After trying several ways, he finally adopted the plan of letting it remain in a solid heap and turning on water enough to keep it moist and cool until it was drawn out to the field, when it was put in flat heaps about a foot thick after being well trod down. Most of the water used was from the roofs of barns and sheds. In this way from 80 to 100 cords of compost was made from the same stock which produced fifteen cords of manure the year before, with ordinary bedding. The value of a part of the sawdust compost which was allowed to lay over the summer and digest or rot, proved to be greatly increased for the purpose of a top-dressing for grass land. This compost worked well on all parts of the farm. Carrots, corn, potatoes, wheat, all sorts of roots and grass were alike benefitted—the more compost the larger yield, in all cases. Still, sawdust of itself, is rather weak manure, and the more urine, droppings, house-slops, &c., that can be mingled with it, the better it will prove.

A HOME-MADE ROCK LIFTER.

Many farmers might cut their grass with a machine if their fields were not covered with rocks weighing from one to three tons. A good and cheap machine to pull them out may be made by any man who has good tools, in the following manner:—Take two sticks, nine feet long and four inches square, these are for the sides; one stick for the hind end, four inches square and four feet long; for the rocker a piece six inches wide and four feet long, set back eighteen inches from the fore end; mortice them together as you would a heavy wagon body, and put a short brace in each corner. Next take two sticks about seven and a half feet long and four inches square, set them up on the side pieces of the body in the form of an inverted A, half way between the fore and hind axle; bring the top ends within six inches of each other and fill the space between them with a large tackle-block or pulley, containing two wheels; fasten the ends together with two large bolts, running one of them through both wheels. The upright part must be braced with four braces four feet long. For a roller, take a round stick four inches in diameter, and long enough to reach from one side-piece to the other; bore two holes near each end for the levers; fasten the roller to the side pieces about a foot ahead of the rocker; get a tackle-block containing two wheels with a large hook in one end; take forty feet of two-inch rope, pass

it over the wheels of both blocks; fasten one end to the roller and the other to a staple and ring near the upper block. With this machine and the necessary skids, two men can roll up as big a stone as a good pair of oxen will draw off on the wheels.

Middlesex County, Mass., 1868. PHILIP.

BRUSSELS SPROUTS.

Last fall I wrote two notices of this vegetable for the FARMER, and if I can say anything more which will induce its more general cultivation, at least in gardens for home use, I shall set myself down as thus far a public benefactor. I never saw the vegetable till I saw it growing in my own premises this season. I have heard so much of its delicacy from travellers abroad that I procured some seeds in the spring (at Washburn's, in Boston, I think), and planted them alittle too late, however. They did well, but did not come into bearing very early. I had only a few plants, and late in October I secured enough sprouts for a trial, and found them tender and delicious—a refined cabbage. I supposed I should have no more, but since then they have flourished well and given me several messes from some dozen or more stalks. I gathered a fine dish to-day, after the snow and severe cold weather which we have had. There is no vegetable that comes upon my table which is more generally commended by my family. I think it is perfectly hardy, easily raised, prolific, and I can see no earthly reason why it should not come into general use. I cannot find out much about the manner of treating it, but propose to take up the stalks for spring planting, and believe it will produce delicious sprouts for early spring use. Now, if each one of the 17,000 weekly purchasers of the NEW ENGLAND FARMER will try this vegetable another season, and the much larger number who occasionally get a glance at the paper without subscribing, will do the same, then if the vegetable does not thereafter go into pretty general family use, even in this climate, it will be because their experience differs much from my experience of this year. I might add, the little heads or sprouts which are eaten, grow upon the stalks. They are easily cooked, requiring but a few minutes boiling. We serve them with butter, pepper and salt.

Since writing the above, I have seen the communication of your Jeffersonville, Vt., correspondent, "E. H.," and am glad to have one early endorsement that this dish is "fit to set before an epicure." His failure in this country was doubtless owing to his soil and exposure. My land is a deep, heavy, rich and rather moist soil, but I think the sprouts will grow anywhere side by side with the cabbage.

November 24, 1867. INQUIRER.

REMARKS.—The above communication was received last December, and its publication postponed for the purpose of procuring a cut of the vegetable with which our correspondent is so well pleased. So much delay has attended the several processes of drafting, engraving, and electrotyping, that it appears rather late in the season. We hope, however, that what was published last fall and winter, in relation to this Thousand-headed Cabbage, as the Brussells Sprouts is often called, has induced many to procure and plant a few seeds by way of experiment. It may not be entirely too late to do so as yet.

"The seeds," says Mr. Burr, in his book on the vegetables of America, "should be sown at the time and in the manner of the cabbage, either in hot beds in March or April, or in the open ground in April or May. When three or four inches high, transplant two feet apart in each direction, and cultivate as for cabbages. In September, the early planting will be fit for gathering; whilst the later plants will afford a succession that will supply the table during the winter. They are quite hardy, easily grown, thrive well in New England and in the Middle States, and deserve more general cultivation." Mr. Burr also describes two varieties,—the Dwarf, growing from eighteen inches to two feet, and the Giant from two to nearly four feet in height. The seed in the market often produces plants corresponding with both varieties and numerous intermediate kinds. The small heads are used either as cabbages or as the cauliflower.

CULTIVATION OF POTATOES AND CORN.

Our spring has been cold, rainy and backward; being almost a duplicate of the weather last spring. Some of the Island farmers planted early potatoes three weeks ago, but probably will have to plant again. Until last year, the potato has been the most profitable crop raised in this section. The perpetual rains of last season almost destroyed the crop, and little remains for seed.

Heretofore the potato crop, being very sure, has been carelessly cultivated, but as the price is now very high, I would suggest economy in seed, and greater care in preparation of the land.

We have seen statements in the FARMER of success in using eyes cut out singly and planted in drills. This involves some work, but the same seed thus planted would doubtless yield twice as much as where the whole potato is planted in one hill. Three or four eyes planted in the drill, is the practice here. I hope experiments will be tried this season as to these points. No one can have pulled potato vines without noticing roots running far away from the hill; nor can any have hilled up potatoes without finding himself cutting off a great many roots, which are the feeders of the growing potatoes. Hence we doubt the practicability of hoeing deep and hilling high. A slight flat hill, holds water best in dry times. The cul-

tivator and hoe to stir the surface and keep weeds down are sufficient, without deep trenching around the hill. When the manure is ploughed in, the roots diverging from the hill get the benefit of it. A shovel full in a hill, acts upon a limited surface only. So it is with corn, the roots do not stay in the hill where the shovel full of manure is dropped, but they seek from afar the nourishment with which to give you the "full corn in the ear." If the farmer would, as was said by one of your late correspondents, plough in his manure at the second ploughing, say four or five inches deep, his land would be pulverized and made more mellow, and his corn would show the result at harvest time. Here again experiments are wanted. Plant alternate rows of corn, in hills, in the usual manner and in drills, and report the yield of each in the FARMER. H. POOR.

Brooklyn, L. I., April 25, 1868.

FOOT DISEASE IN SHEEP.

Can you or some of your readers tell me what is the matter with my sheep, and what will cure them? In about one week after I bought them, they began to be lame, and small round sores between the toes appeared, that soon spread over all the space between the toes and up as high as the issue. I have doctored them for the foot-rot, and have used Whittemore's Patent Foot-rot Medicine once; hot tar, once; powdered blue vitriol, turpentine, white lead, and vinegar, twice; pure nitric acid, three times; blue vitriol, vinegar and turpentine, three times; white lead, blue vitriol, (powdered,) turpentine, linseed oil, five times. I began doctoring in November, and in March the flock was nearly well, but now there is hardly a sound sheep in a flock of eighty. Two have died. The disease has not worked under the hoof. I have acted on the best advice I could obtain.

Ascutneyville, Vt., April 15, 1868. D. F. A.

CORN COB MEAL.

A few years ago, after having perused a long treatise in favor of cob meal as a feeder, I concluded to try it, although at the time I placed no confidence in it as a food; for I could not see how a dry cob, with no taste or smell, could possibly be nutritious,—scientific researches and analysis to the contrary, notwithstanding. Fearing the ridicule of my neighbors, I loaded into my wagon about twelve bushels of cobs, minus the corn, and a few bushels of clear corn, and started for a grist-mill *eight* miles from home, when there was an excellent one within about one and a half miles. When I arrived at the mill and told the miller my object, my mortification was still more increased by being informed that the toll for grinding the *cobs* would have to come out of the corn, as the cobs were useless to the miller. However, I was not going to give up the trial, after having come that distance, without satisfying myself; so I had my cobs ground, paid my toll out of the corn and went home.

That night I fed my cattle a good ration of ground cobs, but instead of eating it they turned up their noses in unfeigned scorn and lowed lustily for something better. This, too, was a damper on my feelings, but I suppressed my chagrin and consoled myself with the thought that not being used to the food they would not eat it until they knew what it was. So I mixed a little corn-meal with it and tried them on that. I found from several trials that they would eat it that way; but the only trouble was that I could not mix more than about a pint of the cob meal with a peck of the corn meal, or they would not touch it, so I gave up the cherished idea of feeding cob meal and returned to the trodden path of my forefathers.

Afterwards, however, I tried feeding meal, made of the corn and cob ground together, to my horses, the result of which nearly proved disastrous to my team, as it caused such a stoppage of the bowels and urinary organs as to be nearly fatal. The moment I stopped feeding them on this mixture and resumed the clear corn meal they were all right again.

I was at one time speaking to the proprietor of a line of stages that formerly run between Burlington and Montpelier, in regard to the effect of this meal on my horses, and he told me "they had lost more horses in that way than any other." There seems to be an acid in the cob that contracts the intestines and bladder, and in that way causes the stoppage. My experience, which they say is the best teacher, has led me to eschew the use of cobs entirely as food for my stock, and should advise all who feel interested in the welfare of their cattle to do the same. NIX COBBS.

North Underhill, Vt., April, 1868.

LICE ON CATTLE.

A thorough washing of cattle in water in which potatoes have been boiled, with a sprinkle of ashes under them occasionally, I will warrant to prevent their ever being troubled with lice. I think hens should never be allowed to roost with cattle.

Port Kent, N. Y., Feb., 1867. J. C. MILLER.

CURATIVE MEDICINE FOR FOWLS.

Indian meal, lard and cayenne, mixed of suitable consistency to be administeredby putting the left forefinger into the biddy's mouth and force a pellet of the dough into the throat; then gently work it towards the crop. I knew it to cure a pullet in a cold night, that failed to roost, and one whose claws were drawn up, and thus made helpless, and a rooster that kept putting his head to the ground and going heels over. These cases were cured in an hour. C. NEMBYSER.

York County, Me., April, 1868.

AGRICULTURAL ITEMS.

—The Contoocook Agricultural and Mechanical Society will hold its next fair at Hillsborough Bridge, September 16 and 17.

—The London dairymen have decided that the most profitable cows are graded short horns, not because they give more milk, but because when past milking, they make most beef.

—The veterinary editor of *Wilkes' Spirit of the Times* recommends the following for scratches in a horse: Take sulphate of zinc, one drachm; glycerine, two ounces; apply every morning.

—A correspondent of *Wilkes' Spirit* urges that early breeding has produced the deterioration in horses rather than in-and-in breeding. He advises never to breed a mare to a stallion under six, and never before the mare is five.

—Mr. E. Dorland, of Sherwood, N. Y., writes to the New York Farmers' Club that his cows were bitten by mad dogs, and about two weeks afterward he found greenish lumps in the milk, about the size of peas, and holes were continually eaten through the pans.

—In selecting cows for dairying, or furnishing milk for market, the *Farmer's Cabinet* directs as

follows: select good wedge-shaped animals; heavy hind quarters, tapering towards the head; with light heads, long faces and long wax-colored horns; slim necks, small tails, capacious udders, running well forwards; milk veins large; teats good size, rather long, and set well apart.

—The *Farmer's Cabinet* says a piece of lard as large as a walnut mixed with dough, will cause a hen to commence laying immediately after she has been broken up from sitting; and by giving hens fat in this way, they may be kept laying all winter.

—Dr. Piper sends the New York *Evening Post* the following remedy for garget in cows: hydriodate of potash, one ounce and a half; water, one pint; to be given in doses of one tablespoonful two or three times a day. It may be mixed with meal, or put into a pail of water. This is probably the best remedy known.

—In a recent discussion before the Bedford, N. H., Farmer's Club, the question of applying manures to sod ground was discussed, and at the close of the discussion twenty to one voted that manure should be applied to the sod after it had been turned over, and as near the surface as it is possible to cover it, not over three inches deep.

—To prevent smut in grain, a correspondent of the *Prairie Farmer* directs to spread the grain thinly on a floor, sprinkled with brine strong enough to bear up an egg. Then add two quarts of slacked lime, and shovel over until the kernels are uniformly coated. This should be done the day before it is sown. It will kill the spores of smut and quicken the growth of the seed.

—At a late discussion by the New York Farmers' Club, Horace Greeley said, "I consider deep ploughing a remedy for the woes of this country. No garden or orchard ought to be planted unless trenched two feet deep, so that the roots can penetrate to the moisture. Two feet is not deep enough, but I am so modest I stop here!" With some of our New England teams and on some of our New England soils, we think, if obliged to "either hold or drive," one-half of that depth would fully satisfy his "modesty," by dinner time of the first day's trial.

—A correspondent of the *Country Gentleman* recently found the bees in a hive kept in a cellar, the temperature at the time being about 38°, very uneasy, trying to get out at the entrance and at the holes in the honey board, both of which were covered with wire cloth. When dark he removed the honey-board, made five additional holes, cleaned out the dead bees from the bottom board by the use of a bent wire, and all have been perfectly quiet since. They were suffering from want of sufficient ventilation.

—Notwithstanding a scarcity of water which rendered it impossible to work up the whole crop of beets at the Chatsworth factory, last fall, the *Prairie Farmer* says that sixty-five thousand pounds of sugar, of fine quality were produced, and have been sold at good prices. The work will be prosecuted with renewed vigor the coming season. It is also stated by the *Western Rural* that at this establishment about 400 head of cattle have been fed through the winter on beet pulp, with a small amount of grain, the cattle fattening finely on the pulp.

—A correspondent of the *New England Homestead* has for the last twenty-five years, planted potatoes, not larger, on an average, than an ordinary hen's egg, and they yet produce as sound, and as large a product as at first. Potatoes inadvertently left undug, if they do not freeze during winter, invariably produce sound ones, larger and more abundant than those kept in the cellar through winter. This has lately suggested to him the plan of keeping potatoes excluded from the air from the time of digging and planting, which has invariably prevented rot.

—At the late meeting of the American Dairymen's Association, a committee was appointed on statistics. The committee propose to obtain correct information in regard to the product, demand and sales of American cheese and issue circulars at frequent intervals to dairymen, advising them of all useful information in regard to the cheese and butter product and the markets. To carry out this scheme money is needed, and the committee has levied a tax at the rate of two cents per cow on all the factories in America. If this should be paid in, the work will go on, but if not, then the money will be returned to such as do pay.

—Some time ago, a cow belonging to a farmer on the line of the Pittsburgh and Chicago railroad, ran upon the track in front of the train, throwing the train off the track, and injuring several persons. The railroad company sued the farmer for the full amount of damages, and recovered a verdict for $4000. An appeal was taken to the Supreme Court of Indiana, which affirmed the verdict of the lower court. This is an important decision as it holds that persons living upon lines of railroads cannot allow their stock to run at large so as to endanger the safety of passing trains.

—A correspondent of the *Rural New Yorker*, who put 28 swarms of bees in his cellar, left two on the stand and put one in his chamber, for the purpose of ascertaining which was the best place for wintering. The two left out on the stands, the one put in the chamber, and two of those put in the cellar were weighed December 15th. March 26th, they were weighed again. One of those on the stand had shrunk fourteen and the other sixteen pounds; the one in the chamber fourteen pounds, and of the two in the cellar one lost fifteen and a-half and the other sixteen and a-half pounds. As this does not settle the question as to the condition of the bees for the summer campaign, he promises to watch and see which swarms first and yields the most profit, and report next fall.

For the New England Farmer.

THE BLUEBIRD.

BY THE PEASANT BARD.

When warm rains fall and soft winds sweep
Away the wintry drift,
When swollen brooks roar down the steep,
And gray with mist the lift:
When through the vale the floods outpour
And crashing icy floes,
With swash, and dash, and wild uproar,
Trend with the melted snows;
When all the plain with snow-broth swims,
And teams, on half bare road,
With swinging heads and cordy limbs,
Drag the resistant load;—
A twitter from the tree we hear,
Some bars of music sweet,
And gloomy thoughts give place to cheer
As we the minstrel greet.

Sweet little harbinger of Spring,
Green fields, and sunbright days!
O, welcome! with thy azure wing
And softly warbled lays.
While other songsters loiter still
In regions of the sun,
I bless thy hardy little will
To tell of Winter done,
Its dark, cold days and bitter skies,
Its wild and gusty nights;—
Of Spring, unfolding to our eyes
Her mantle of delights.

The farmer hears thee, and he knows
Of earth's awaking life;
Tells of thy advent as he goes
Homeward, to "weans and wife;"
And eyes grow bright, and smiles steal o'er
The sober face of care,
And crowded grows the cottage door
To catch the vision rare.
The swart boy in the sugar-bush,
Who loves his gun to try,
The crow's discordant croak will hush
With "murder-aiming" eye;
But when thy liquid numbers fall
On his delighted ear,
He welcomes thee with answering call,
Nor harms thee, hovering near.

Sweet bluebird, type of winged HOPE!
When darkness like the tomb
Begirts earth's pilgrims, and they grope
In sadness and in gloom;
Hope whispers soft a word of cheer
O'er the dismaying scene,
Till through the folds of blackness peer
Bright skies and living green.

Gill, Mass., March 14, 1868.

EXPLODING WOODCHUCKS.—A gentleman recently informed us that he had been entirely successful in destroying these pests on his farm by an invention of own, which he said was simply a "small earthquake." This he produces in the following manner: a good handful of gunpowder is put into a cloth bag, to which a fuse is attached. The bag is then put into the woodchuck's hole some two or three feet, with the other end of fuse projecting from the hole, which is then filled in and carefully tamped with earth. If the burrow has other openings these must also be closed. The fuse is then lighted, a dull explosion follows, and poor chucky is never heard from again, being probably unable to breathe the air in his narrow house after the burning of the powder.

CONTOOCOOK, N. H.—The agricultural and mechanical association of the Contoocook valley has voted to hold its next annual exhibi- at Hillsboro' Bridge on the 16th and 17th of September. Its newly elected officers for 1868 are as follows:—President, Horace Gove; Vice Presidents, Cornelius Coolidge and C. E. Potter; Secretary, John F. Chase; Assistant Secretary, Daniel Johnson; Treasurer, J. C. Campbell.

SOWING GRAIN.

Seed can only be distributed evenly from the hand in a semi-circle, and to do this while walking at one end of the semi-circle and casting it all on one side is impossible.

Let the sower walk in the middle of the cast and throw it equally on both sides, and shift his track one half the width of the cast at each end of the lot, and the most slovenly hand will make fair work. Thus each line of track will have the edge of two casts and the middle of one. But still a careful examination will reveal a difference between the right and left sides, which would be unnoticed by a casual observer. This arises from the head or first part of the cast being apt to be the thickest, and the tail, or last part, flying the farthest, and with this way of walking the head falls on the same place, both going and returning. This, however, is effectually remedied by sowing with the right hand one way and the left when returning, which will become an easy and agreeable habit with an hour's practice

All this could be made plain on paper by a drawing, but still plainer by a trial on the field, and the experimenter will be surprised at its ease and success. But in the sowing of small seeds, such as clover or ruta-baga seed, the best plan is to carry the seed in front and sow with both hands, swinging the arms as in walking, the right hand advancing with the left foot, and *vice versa*. This is particularly needful with ruta-baga seed, of which a quart should cover an acre, and remarkably even distribution is required to facilitate the hoeing and insure a crop.—*W. H. Mabbs, in Western Rural.*

THE GOLD MEDAL CLIPPER,

AT THE GREAT NATIONAL TRIAL AT AUBURN, N. Y., 1866.

We present a cut of the Clipper Mower as one of the leading standard machines of the day; and one which, in our judgment, is worthy of particular criticism by those about to purchase. It is claimed that its steel guards; iron frame; enclosed gearing; malleable shoes; adjustable height of cut while at work; height of wheels; front draft; ease of draft; adjustable gear shifter; with its simplicity of construction and tasty style of finish, are considerations to be appreciated.

We notice in the report of the committee at the Auburn, N. Y., trial, (see report, page 65 to 67,) the following highly complimentary remarks to the inventor, Mr. Rufus Dutton: "Its mechanical execution reflects upon him the highest credit; in this respect it surpasses all the rest; all the bearings are as smooth as machinery can make them; all the joints are closely fitted; all the working parts are mathematically in line; all the materials of which it is composed are the best that can be procured. So excellent was the workmanship, that a protest was made by one of the exhibitors, in writing, that it was better than those offered for sale. A sub-committee was appointed, and after a careful examination of machines in the hands of farmers, and at their warehouse, reported that the machines at Auburn were in no respect better than those offered for current sales."

ONLY ONE CUSCO.—In the table of the comparative products of different seed potatoes, in Mr. O. C. Wait's communication, in the FARMER of April 11, Monthly page 210, by a mistake of the printer, it appears that the same number of the Cusco was planted as of the four other varieties named; when, according to copy, the seed for the twenty-eight hills which produced two bushels, was from a single tuber.

WEEDS.

EEDS have the advantage of all cultivated plants in several respects.—They usually have possession of the soil and possession is said to be "nine points of the law." They are either heirs of old settlers, and claim by regular descent, or they are holding by the claim of "squatter sovereignty," or they have been inadvertently placed in the soil by the farmer, in the manure, or mixed with his seeds. In some way they have got possession, and the weed is not particular about the soil. It is at home anywhere, and always ready to assert its claim, and push its way; and, like the child of poverty among the heirs of wealth, it seems to know that it must fight its way through the world, and sets about it with energy and pluck, and generally, like him, wins the fight at the expense of those whose prospects were apparently the best. It does not require dainty food or watchful tending, or careful protection from heat and cold. All it asks is, like other rebels against good government, "to be let alone," and it will accomplish its purpose, will mature its seed, and thus secure the continuance of the pest as a source of trouble in future. We think cultivators do not always treat the weeds as wisely as they might Would the commander who allowed his enemies to entrench themselves and gather reinforcements before he offered them battle, be considered a skilful general? And the farmer who waits till the weeds are firmly rooted, and have grown large and strong,—is he any wiser? When weeds have attained a firm foothold, it is much more difficult to destroy them. You may turn them under or over with the plough or cultivator, but they start up in increased numbers and commence anew the fight for possession. As soon as the rows of plants can be seen, set the cultivator in motion, and turn up the weeds to the rays of the sun, while they are yet tender. Indeed, the Western farmers use the harrow, drawn in the direction of the rows, before the shoots of the corn are visible, and say it does not hurt the corn. On old ground, the surface should be stirred as often as a new batch of weeds begins to show itself. If the weeds and plants are allowed to grow together, the weeds will grow the fastest, and monopolize the nutriment in the soil, and starve out the plants.

In our old soils, this fight with the weeds is an important part of the husbandman's labors. It cannot be put off, like some other work, till a convenient time, but must be attended to at once, and continued so long as the plants continne to grow; and if one would have an easier contest another year, he must continue it this year through the entire season, and not suffer a weed to mature its seed.

We have a neighbor who commences early his battle with the weeds in his garden, which is a rich soil and annually filled with manure. He rakes over its entire surface twice a week and keeps it "swept and garnished" all the fore part of the season. When the plants become large and thrifty, he gets weary of his work, and leaves plants and weeds to themselves, and in the autumn he has a fine crop of weeds, which mature a full store of seeds, so that he may be sure of work for the next year. When he digs his potatoes in the autumn, he mows off a full swarth of weeds before he can find the hills. If he would keep his ground clean through the entire season for a few years, he would find his labors much lightened. "A word to the wise," &c.

"The sire of gods and men, with hard decrees,
Forbids our plenty to be bought with ease;
And wills that mortal man, inured to toil,
Should exercise with pains, the grudging soil."

RULES FOR BUYING WOOL.

Recently we made a note, by way of an "agricultural item," of the fact that a Chicago convention of manufacturers had promulgated certain rules by which they were to be governed in buying wool. But as it takes two to make a bargain, we supposed the one-third shrinkage resolutions of this association were little better than a "puff of empty air." But taken in connection with similar resolutions adopted by a similar convention in Rochester, N. Y., about a year ago, we see by late numbers of the *Rural New Yorker*, that Dr. Randall treats the matter as one of

more importance, and thinks the agricultural press should define its position on the question, and do its utmost to bring the combination rules into discredit and disuse. For our own part, we have considered the idea of establishing any such arbitrary and preposterous rules for buying wool as too absurd for serious protest.

Suppose that a convention of consumers were to fix a standard of "merchantable cloth," and then adopt a one-third or any other positive rate of shrinkage on which they would buy all other cloths, and who would feel called upon to define his position on that question, or to attempt to bring such combination rules into discredit and disuse? Or, try it on horses or cattle, houses or lands, sugar or salt, stockings or shoes, and what would be said to a proposition to administer trade on any such principles?

Still we very well know that wool growers have long submitted to somewhat similar edicts, and perhaps their emancipation from their unjust operation is more distant than we had supposed. It may yet be necessary, as suggested by Dr. Randall, for the producers "to fight the devil with fire," by forming a combination of their own to checkmate the combinations of the buyers. But we had hoped that the good sense and best interest of both parties would lead to the adoption of more sensible and more equitable principles of traffic; that wool, like all other articles of produce and merchandise, would soon be bought and sold for "what it is worth," and that both buyer and seller would see the necessity of being better posted as to the quality and condition of the article and the state of the market.

TO PREVENT CATTLE FROM JUMPING FENCES.

One of the most trying annoyances to the farmer is to have breachy cattle. They not only set a bad example to other cattle, and destroy fences and crops, but they frequently lead to bitterness of feeling between neighbors, who have lived in harmony for many years. This sometimes ends in a fierce and protracted litigation, ruinous, perhaps, to some of the parties, and destroys the good feeling and amiability that had previously given the neighborhood a good name. This change of feeling is not confined to those who were at first most interested in the matter, but extends to relatives, witnesses and others, until the whole neighborhood is drawn into the gulf, and all are more or less demoralized. In this unhappy manner, feuds are commenced that sometimes pass down through several generations, and all springing from the fact that a breachy cow, ox or horse broke down the fence, or leaped over it and destroyed a few bushels of apples or corn, or fed to repletion in forbidden fields.

Various devices have been resorted to in order to prevent such trespasses, and especially in regard to sheep, but none have succeeded, or only in a limited degree. Now we have a new one, and if it is not cruel or painful, or will not greatly discommode the animal operated upon, and is a remedy, we can see no objection to employing it. It is to "*clip off the eyelashes of the under lids, with a pair of scissors, and the ability or disposition to jump is as effectually destroyed as Sampson's power was by the loss of his locks.* The animal will not attempt a fence again until the eyelashes are grown."

This fact has been promulgated by that distinguished breeder of cattle, Mr. SAMUEL THORNE, of Dutchess county, N. Y., who states that he tested it upon a very breachy pair of oxen with entire success. He considers a knowledge of the fact of great value to himself, and hopes it will prove so to others.

LEICESTERS AND MERINOS FOR MUTTON.

A few weeks since our cattle market reporter noticed a fine lot of 263 sheep, averaging 144½ pounds, fatted by Mr. Jurian Winnie of Albany county, N. Y., and sold to Mr. Henry Goodnough, a Brighton butcher. We now learn that Mr. Winnie fed 901 head the past season, 180 of which were Merinos, and the remainder Canada Leicesters, and that they were sold for $12,049.15. To test the comparative profit of feeding the two kinds of sheep, Mr. Winnie set apart 60 Leicesters and 61 Merinos which were weighed February 10. The *Country Gentleman* says:—

A careful account was kept of all the food they consumed during the continuance of the experiment, forty-six days, to March 28, when they were again weighed and sent to market. These numbers were thought to represent fairly the whole, and were taken as avoiding the trouble and additional risk of error, which would have been in-

curred by larger numbers. The experiment began after both lots had been got in good progress—the previous and subsequent treatment of both having been precisely alike. The Merinos were an extra good lot, the 180 having been selected out of 600—and no complaint could exist against them, as we know by personal examination, on the ground of being below the best merits of their kind

The following are the figures as regards weight, &c.:—

Feb. 10—60 Coarse Wools weiged,	8,870 lbs.
March 28— do. do.	9,878 lbs.
Gain in 46 days,	1,008 lbs
Total cost of feed, (hay, grain, oil-meal, roots, &c., for 46 days,)	$174.43
Feb. 10—61 fine Wools weighed,	6,909 lbs.
March 28— do. do.	7,389 lbs.
Gain in 46 days,	480 lbs.
Total cost of feed as above,	$144.78

When both lots were sold, March 31st, the former realized 10¾ cents per pound, and the latter 10½ cents.

A calculation in simple proportion will show that if the coarse wools gained 1008 pounds at a cost of $174 43 for feed, the gain of the fine wools at the same ratio upon an expense of $144.78, should have been 836 pounds, whereas it was only 480 pounds, or a little more than one-half a proportionate amount as compared with cost. As compared with live weight, Feb. 10th, the coarse wools gained 11½ per cent. in the forty-six days—the fine wools not quite 7 per cent.

In this connection it should be remarked that Mr. Winnie is a careful, but we hope not prejudiced, breeder of pure Leicesters, as well as a noted and most successful feeder. Among the last year's lambs of his Leicester flock of forty head, some weighed 175 pounds on the 17th of March last.

RENOVATING WORN LANDS.

There is much complaint that lands are exhausted. That they will not yield remunerative crops, and there is a constant inquiry how they may be restored to a fertile condition. We have long been convinced that clover for this purpose is not estimated at its true value. Clover for many purposes, is one of the best kinds of food. For sheep, milch cows, and horses that are not worked much, there is no better hay. And while a crop of clover that pays the expense is obtained, the land is improving. The *Rural New Yorker* gives the following experience of one of its correspondents:—

The lot of which I write is dark gravel and sand, with a little yellow sand. It had been pretty well summer fallowed when I bought it, and there was nothing better to do than to sow it with wheat, no manure on hand to top dress with. I sowed it to wheat, and the next spring with clover. Harvested 11 bushels of wheat to the acre. Some time previous to cutting the wheat, it had been very dry, and the clover was much dried up,—it seemed as if would die. Immediately after cutting the wheat, I sowed a hundred pounds of plaster to the acre, hoping that this, with the dews, might save the clover. The clover lived and grew finely. The next season mowed once and pastured moderately. Mowed again the next season. In August ploughed eight inches, turning under but little but the roots, and after cultivating the surface with drag and cultivator, sowed wheat again. From this, harvested seventeen bushels of wheat to the acre. Went through the same process again for the next two seasons, and harvested twenty-two bushels of wheat to the acre, thus doubling the yield of the wheat by the clover roots, and the plaster. What has been done is the best guide to what can be done.

In this case, in six years, at a cost only of three hundred pounds of plaster to the acre, the land had been brought into a good condition; the crops in the meanwhile paying well for the labor. There is much land in this State, that by a similar process might be brought into a good condition. No doubt manure would do the work quicker, but when this is wanting, why not resort to clover and plaster. Twenty-two bushels of good wheat is as much as we can expect from well manured lands.

WEIGHT OF FLEECES AND PRICES OF WOOL IN OLD TIMES.—The *Rural New Yorker* has discovered in one of Shakespeare's plays a price current of wool two hundred and sixty-four years old. In the Winter's Tale, Act iv., Scene 2, the clown making preparation for the "sheep-shearing feast" thus counts up the funds at his disposal:—

"Let me see:—Every 'leven wether—tods; every tod yields—pound and odd shilling; fifteen hundred shorn,—what comes the wool to?"

This is explained by the commentators to mean that the wool of *eleven sheep* would weigh a *tod* or 28 lbs. Each fleece would, therefore, be 2 lbs. 8 oz. 11 dr., and the whole produce of fifteen hundred shorn, 136 *tod*, 1 clove, 2 lbs. 6 oz. 2 dr., which at a pound and odd shilling per *tod* would yield £143, 3s.

THE COTTAGE SYSTEM.

In his recent address on retiring from the Presidency of the New York State Agricultural Society, Gen. M. R. PATRICK, after alluding to the difficulty of obtaining skilled labor on the farm, made the following remarks, which are well worthy the attention of New England, as well as New York farmers, and are corroborative of the views expressed by our correspondent "N. S. T." in an article published last August. On every farm where hired labor is required through the year, this system might be adopted, and would be

attended by many advantages. In addition to those specified in Gen. P.'s remarks, the laborers would be scattered through the community, living in close proximity to their work, instead of crowding into some "Dublin" or "Cork," in the centre of our towns and villages, by which arrangement much time is spent in going to and from their work.

"The cottage system appears to present the most favorable solution to the problem, for both the farmer and the laborer, as well as for the best interests of society generally. By the erection of snug cottages, at convenient positions for attending to farm work, and the employment of married men as permanent farm laborers, not only boarding themselves, but such other occasional help as may be required, the farmer's wife is relieved from the burden of caring for a house full of hired men, and will, in all probability, secure from the wife and daughters of the cottager, such female help as may be needed in her own kitchen and dairy. Wherever this system has been introduced, it has given the best satisfaction to all parties concerned, especially to the laborer, inasmuch as it gives him a home—a castle of his own; making him realize that he, too, is a householder and a citizen.

His self-respect is increased, his manhood is developed, he acts more considerately; your interests and his become more identified, and your influence in molding and Americanizing the ideas of his growing family is as potent, quite, as his own. Hitherto only the wealthier classes of our agriculturists have adopted this system, but there seems now to be a necessity for the adoption of of such a system by farmers of the middling class, and those who own smaller farms."

For the New England Farmer.

THE APPLE TREES.

Shall we lose the apple trees? This is a question of great importance. Solon Robinson says "we shall lose the apple as we have the peach crop." I no more believe this than I believe that we shall lose our maple orchards, or our beach and hemlock timber lots. But the present system of *planting* and *cultivating* apples must be essentially revised. The statute laws intended for the government of a nation in "the piping times of peace," are no better adapted to the exigencies of the changing fortunes of a wasting war, than the old careless system of planting and cultivating fruit trees is to carry them safely through the destructive war which the Curculio, Codling Moth, Borer and other inveterate enemies, have made upon them. Plain, practical results, deduced from experience and careful observation must lead men in this work, and not theory. Theory is much better, and will produce greater results in the school-room than in the open field. The man who tills the soil with his own hands, and learns the varied workings there of the laws of vegetable physiology, is the man to establish general principles for the cultivation of fruit and fruit trees, and not the chemist in a city labratory. "Soil analysis" died in the arms of the chemist, so will his trees, just as Mr. Robinson says.

The man who plants with intelligence, cultivates with prudence and care, guards against over-bearing and trains his trees so as to resist the effects of the sweeping winds, the biting frosts and the ever-changing atmosphere, will not only find the cultivation of fruit profitable, but one of the most pleasant occupations of life. Every fall we hear that the "fruit drops prematurely, the apples are wormy," "the fruit crop a failure," &c., &c.

But where is the remedy? The destruction of the perfect insect is beyond our reach; but there are remedies which we can bring to bear upon them while in the embryo or larvæ state. The constant gathering up of all the fallen fruit, and if apples in sufficient quantity, make them into vinegar; but if few, or of other varieties of fruit — such as pears, plums, or peaches,—burn them. By persevering in this line of treatment, and occasionally washing the trees with strong soap suds, or some other like wash, the destruction by these pests of the orchard may be greatly averted. This, however, is rather anticipating our subject. Other questions must be considered.

What kinds of fruit shall we raise? What varieties, and in what proportions of each? What adaptation of soil and climate shall be observed. Shall we bud or graft? When and where obtain our scions or buds? What stock shall be employed? Shall we mulch, and with what material? What preparation of soil, what amount and kind of fertilizers, and what cultivation generally shall be given? These and other kindred questions, demand the careful attention of every fruit grower, wherever located.

Varieties.

How few of all the hundreds of varieties under cultivation in the Eastern States combine all the characteristics of a good fruit. What we now seriously need is an extensive planting of seedling and experimental orchards. From this system of planting by our forefathers came nearly all the choice varieties which we now cultivate. These orchards are now fast disappearing, from old age and neglect. From the abundance of our forefathers, our fathers neglected to plant. Central and Western New York supplies the eastern markets with apples to-day. The time has come when it pays to raise apples for cider and vinegar, and there must be a *new* class of apples produced for this purpose. The Baldwin, Greening, Russet and Nonesuch are entirely unsuited to this purpose. Under the present system of planting and cultivating trees, it is almost impossible to originate a new and valuable variety. That any seedling apple grafted and re-grafted for forty years, more or less affected by the diseases and imperfections of a score of different trees, can maintain its native character and qualities unimpaired, I think no man will assume to maintain. A great portion of the Baldwins now produced in this section, are far below the high standard of this valuable apple

twenty years ago. Science has demonstrated that the physiological laws of growth and decay positively forbid the *perpetuation* of varieties. They are simply incidental. I know of no pomological society, no agricultural or horticultural association, that has at any time offered premiums or inducements of any kind for the production of a seedling apple or pear that should possess merit. We must advance from this position, or our fruit crop is a nullity. Apply the money appropriated at State and County fairs for horse-racing, to stimulate the production of new and valuable seedlings, and these New England hill-sides and vallies would again smile with golden fruit. With proper treatment, a seedling orchard may be brought early into bearing, to test its fruit, and but a few years will be required to top and change them into trees of some good or valuable variety.

How to Procure Good Trees.

Thousands of trees are annually set in this country that are worse than worthless at the time of setting. The nursery business has become an important one, and many abuses and "tricks of trade" have crept into its details. Not that nurserymen do not prosecute an honest and legitimate business, and some of them have proved themselves benefactors of their race by disseminating valuable fruit; but irresponsible peddlers of fruit trees are constantly travelling with fruit books of highly colored plates of scores of varieties of fruit, entirely unadapted to our soil and climate, for the purpose of selling refuse trees from distant nurseries, trimmed up like whip sticks to facilitate transportation, but precursors of untimely decay. It is not surprising that we make failures in setting orchards from these worthless sprouts. The free interchange of fruits between States and *nations*, even, is very desirable. But still, as a general rule, we should raise our own stocks, into which we should introduce such varieties as are known to succeed in our particular localities, and on our varied soils. These stocks should be cut off to the ground the second or third year, and budded or grafted with a perfect scion from a good, healthy, bearing tree—using none but those from the ends of bearing limbs of the last year's growth,—never use buds from a sucker or sprout from the trunk of the tree; train it close to the ground, by cutting the leader or upright shoot back to within about six buds. Do this in the early spring of the next season after grafting, before the buds start.

Cultivate as well as you would a field of corn, in order to fully develop the natural capacity of the tree for productiveness. Never allow it to overbear. Mulch well, to keep moist and maintain an equilibrium in the sap and fluids of the tree. Keep the borers out, and the worms off, and God will assist you in making a tree that shall be a pleasant and profitable thing to you and to those that shall come after you.

From this system of planting and training would come orchards productive and remunerative, by having a native hardihood peculiarly adapted to our soil and climate. I have said varieties are incidental,—they appear and disappear. The tree in its old age is unfit to continue the propagation of its species. This system of producing new seedlings, opens up to us an intensely interesting field of enterprise.

Varieties.---Manuring ---Mulching.

The Baldwin is our leading variety, though it may not equal the Spitzenburg or Spy. It is a rapid grower; acclimated and productive. The Roxbury Russet and Rhode Island Greening we originated. New York adopted them, but with varied success. After the Baldwin come Green Pippin, Porter and Danvers Winter Sweet, &c. New York has the Spitzenburg, Spy, Rambo, Melon, Twenty-ounce, Newton Pippin, Codlin, Swarr, Wagener, Smoke House and Primate, all good and nearly all their own by origin. We also have the Nonesuch, Seek-no-further, Tolman Sweet, Pippin and others—the Pippin paying best, and only, for generous cultivation. The Red Astrachan, Williams and Gravenstein are fine apples. The first named I would plant in my garden if for nothing but the beauty of its fruit.

We must revise and increase our list from seedlings. Most varieties of apples will bear but little animal manure. It stimulates and fills the tree with diseased sap, producing a rapid growth of wood, which is immature and will not elaborate into healthy leafy tissue or woody fibre, and resulting in a constitutional disease which proves fatal to the tree. A soil well drained, made rich with a liberal mixture of leaf mould from the woods, and wood ashes, *well mulched*, will make a tree that shall be enduring. This treatment will produce a strong, healthy growth, and the tree will mature its wood every year. I have only spoken here of the apple. From the nature of the case, I am strongly inclined to believe that the pear will soon become our most profitable fruit crop.

L. L. PIERCE.

East Jaffrey, N. H., Feb., 1868.

BIDDY vs. PORKEY.

J. C. Thompson of Staten Island, after referring, in the *Country Gentleman*, to the reports of various individuals who obtained respectively, per annum, from single hens 145, 156, 126 and 115 eggs, goes on to make the following humorous comparison between the profits from Porkey and Biddy.

I gather from the numerous reports in your paper, that porkey does well if he turns out ten pounds of grease for every bushel of corn consumed. But let us allow the swinish multitude a fair average, say 12½ pounds of flesh for one bushel of corn, although it is oftener

under than over that number of pounds. Now let us see how the account stands with biddy. For one bushel of corn, piggy gives 12½ pounds of flesh. For one bushel of corn biddy gives say only 100 eggs, which at eight to the pound, make 12½ pounds. The eggs of the larger breeds will run eight and often seven to the pound. Thus giving piggy a fair average, he makes 12½ pounds, and biddy at a low rate gives the same number of pounds of food.

Now put both in the market at the present prices. Piggy 12½ pounds at ten cents, $1.25. Biddy 12½ pounds at 32 cents per pound, (eggs 48 cents per doz.) $4.00. Showing a difference in favor of biddy, of $2.75. Returning to the product of eggs, as by the reports referred to in the beginning of this article, we find it to be 136 eggs per head, that each hen converted per bushel of grain (for that is all she can eat in a year) into seventeen pounds of food, beating piggy just 4½ pounds on the bushel. I conclude by asking if there is any better mill than a hen's gizzard for making grain into food, quietly, cheaply and well, and withal suitable for so many purposes? If any one knows of a better, please advise.

We are afraid Mr. T. has hardly done the fair thing, in putting pork at wholesale, and the eggs at retail. If the pork is put at 17 cents per pound, $2.12½, and the eggs at 25 cents or 37½ per dozen, $3.12½, it will give $1 in favor of biddy, instead $2.75, and we think be nearer the truth.

REMEDY FOR RUST IN WHEAT.—The following, from a distinguished German Agriculturist, is taken from a Bremen paper:—

For thirty years I have found this method successful in preventing rust in wheat: Some hours, at the longest six or eight, before sowing, prepare a steep of three measures of powdered quicklime, and ten measures of cattle urine. Pour two quarts of this upon a peck of wheat, and stir with a spade till every kernel is covered white with it. By using wheat so prepared, rust of every kind will be avoided, and I have often noticed that while, in the neighboring fields, a great part of the crop is affected by rust, in mine, lying close by it, not a single ear so affected could be found.

The same writer says he takes the sheaves and beats off the ripest kernels with a stick, and uses the grain thus obtained for seed.

THE HORSE "CONSTERNATION."—In addition to the facts stated by us in May number, page 219, in relation to the history of this horse, the *Country Gentleman* says that he was imported in June, 1842, by Mr. T. C. Albot, of Stokes, Oneida Co., N. Y.

Ladies' Department.

DOMESTIC ECONOMY;

OR,

HOW TO MAKE HOME PLEASANT.

BY ANNE G. HALE.

[Entered according to Act of Congress, in the year 1866, by R. P. Eaton & Co., in the Clerk's Office of the District Court for the District of Massachusetts.]

CHAPTER XI.

WOMAN'S WORK AMONG GARDEN PLANTS.

Before we begin our work let us see if we are ready for it. In the first place, we must have a suitable dress to wear. Long and full skirts are a great impediment to activity anywhere—they are entirely unfit for garden work; but the working dress, directions for making which were given in Chap. VIII, is just what is needed. It allows free exercise of all the limbs, and there is no fear of tripping, nor of stumbling, of spoiling plants or flowers, or incurring rents and soiling from the flowing or dragging of its drapery.

As a protection from the too great heat of the sun, or the too frolicsome breezes (every woman likes to keeps her hair in good order) some use the close palm-leaf or Shaker hoods, or else gingham bonnets made in the same shape, having a cape attached to cover the neck, but a straw hat is ample shelter and much cooler. Stout, thick-soled shoes are necessary, because of the dampness of the ground, and also to guard and support the foot when digging. For this work some persons wear clogs over their shoes, or fasten irons under them by leather straps, lest the pressure of the foot against the spade should be uncomfortable. Gloves are also needed, for there are many rough and sharp things to handle. Leather gardening gloves may be bought; these are best, but old kid or cotton ones, taking two pairs—one within the other—answer very well, though they do not come high enough to cover the wrist,—for this a gauntlet, cut cape-fashion from silesia may be sewed to them. These you will want generally, but not always. Don't be troubled by a little soil upon your fingers, it can easily be removed when the hour's work is done by means of a brush and borax water. Keep this always ready for use. To make it add one table-spoonful of powdered borax to a quart bottle filled with water. See that the borax is all dissolved, and when you wish to wash your hands take one tablespoonful of this water to a quart of soap-suds. If your hands are very much soiled use pomace-soap or a piece of pomace-stone; by so doing they are kept smooth and fair. These preliminaries ought properly to have been settled in the previous chapter, as also the subject of tools, which we will now dispose of as quickly as possi-

ble. Procure a small light spade—one of those that are made for ladies' use—a fork, a hoe, a rake, and a trowel; and a small weeding hoe.

Now we will suppose that the surface of the ground has been thoroughly raked, the dried grass, dead leaves, sticks, etc., carried to the compost heap. This, made of refuse vegetable matter, bones from the kitchen, ashes, the sediment of drains—in fact, all animal and vegetable waste that can be collected—must be in every garden; for out of decay spring the subtle forces that will crown your work with life and beauty. Just as the ragged, dingy, disagreeable bits of scrip may be returned to Uncle Sam's treasury and we get in their stead, clean, crisp, new bank notes and gleaming gold, so mother earth must have her wornout treasures back again in her bosom before she supplies us with new riches. Of the stones, bits of brick, and similar rubbish, by-and-bye we will make make a rockery,—where some of our flowers will delight to dwell—so these must be put away for that purpose, and if the soil is dry enough to crumble easily we will commence operations. If you have men, or large boys, that you can depend upon to do the digging, it will be well to avail yourself of their assistance. But you can do it alone, and also design and lay out your ground if you will work moderately.

To begin: attach two stakes to the ends of a rope two yards long; this is to be a measuring line, and also a guide for the digging. Stretch it parallel to the boundary of your land, along the sunniest side, driving the stakes into the ground to hold the line steady. Follow this with your spade, keeping your work straight and even by it, and moving it and arranging it so that the furrows which you make are of equal width. It will take two or three thrusts of the spade to dig the soil deep enough, because you have not yet the skill or the strength to raise a large quantity at once; after a little practice you will get along faster. But do not hurry ever, gardening is to be recreation, not toil. Get all the pleasure out of it that you can. Stop often to look at the objects around you, and to inhale the odor of the newly-opened ground. Bonaparte used to say that if he were blindfolded he could distinguish his father's garden in the island of Corsica by the smell of the earth. At the first feeling of weariness, lay aside your spade and busy yourself about something else, for this is the hardest of garden work and you must accustom yourself to it gradually. If you do not attempt to do too much in the outset you will enjoy the occupation; but, rush on, with only the idea of getting things finished, and you will quickly find yourself finished instead—will acknowledge that you are really "used-up," and declare that gardening is too hard for you. One hour at a time is the utmost that a woman ought to spend at once in gardening, half of that is enough when she uses a spade or a hoe. After the land is dug it must be made fine and smooth by raking; this can be done, different portions at a time, according to the design, the most important parts first.

We have provided for vines in the previous chapter, now we will see about trees. Fruit is desirable, certainly, but we want ornamental trees along the street, or road, or at the corner of the house. American people have not the same ideas of good manners, or of honesty, that the Prussians have, or we might line the roads, as they do, with fruit trees, and feel sure that the fruit would not be the cause of the tree's destruction. But then the variety of form and foliage which the different forest trees present is particularly agreeable when contrasted with that of their orchard brethren, and we must think of something beside bare utility if we would elevate and cultivate our tastes.

I never could agree with the matter-of-fact old man who said to his neighbor, just transplanting a fine young elm at the end of his garden, "Oh, sho! what a waste o' sile! That ere elum aint good for nuthin'. Ef 'twas apple, or winter pear, or cherry, say, ary one on 'em's wuth havin'." But there the "elum" stood, and flourished. In the beauty of its pendant boughs and delicate foliage providing other than material sustenance for its owner, long after cider, and cherry bounce, and good dinners, had made of the old man a clumsy, grovelling human dodo. For we all have wings, and if we gratify only our earthly appetites, as Dr. Brown, the genial biographer of Pet Marjorie says, "if we never soar, but pick up all our daily food at our feet, we shall suffer the fate of that ugly bird; which, according to ancient naturalists was once a true dove, strong and beautiful of wing, but because she would not plume her feathers, and let her pinions grow, she lost the ability to soar."

Until recently little attention was paid in this country to the cultivation of shade trees. The "forests primeval," in all their magnificence, crowned the hill-tops with glory, and sent the blessings of health and long life on the breath of wandering breezes to the valleys and plains below. But man cared not for their companionship. They afforded good fuel and timber; that was all he could see in them. So whenever he wanted ornaments for his grounds he imported prim Lombardy poplars, and gloomy sighing aspens, and melancholy weeping willows. And we meet them now occasionally on desolate country roads, looking like grim ghosts of the past; save when the joyous spring time brings a shower of gold to the swaying elms and hangs the boughs of the maple with rubies, then they get up a semblance of life; and so drag on, year after year, growing more and more misshapen and distorted. We can imagine them as sentinels and out-posts to a desolate battle-field, keeping silent and mournful watch over the remains of the fallen; but they are too sombre and cheerless for any other position. Everything about home should be cheerful and suggestive of happiness, so if we have trees for ornament or

shade or shelter, we will choose such as from association, or by their form and foliage, represent those qualities. The deciduous trees being more changeful in their beauty are on many accounts most desirable; but the evergreens afford great protection from bleak winds, and enliven a wintry landscape.

In selecting trees to adorn our homes we must regard the extent of premises and size of buildings. Thus, if the lot is somewhat circumscribed and the house high, one tall, stately tree will have a finer effect than several of smaller growth; while for a cottage these would be very appropriate. Again, in a small enclosure, or along a narrow walk, trees of a close, compact habit look better than the spreading varieties.

The English elm, ash, and larch, and the pines generally, are trees of the highest growth. The mountain ash, laburnum, acacia, locust, alder, elder, lilac, are the smallest. The maple, linden, willow, lime, plane (or button-wood), beech, birch, abele (or poplar), oak, sumac, American cedar, and elm, the nut trees, hemlock, spruce, arbor vitæ, fir, catalpa, tulip, ailanthus, are of medium height. The chestnuts, particularly the horse chestnut, the butternut, some oaks, poplars, limes, maples are of the closest foliage and most compact form. The American elm, and willows generally, of spreading shape and light, open foliage. The English elm and ash are narrow, with round heads. Firs, cedars, and pines, are broad at their bases, with pointed heads. The longest-lived are the oaks, poplars, and firs; next to these the elms and the limes. Oaks, elms, and most pines, grow slowly. The willow, the sumach, larch, and the birch, rapidly. The sycamore (a species of plane) will grow six feet in a season; the larch, four feet; spruce, and some firs three or four feet.

All nut trees require a tender and rich soil; maples, a sandy loam; also pines and firs. Elms, oaks, limes, poplars, ash, willows, do best in rich soil. The birch, the larch, the elder, the alder, will grow in the poorest. Many of these are easily raised from their seeds. Nuts should be planted about an inch deep, in fine, moist, rich soil in the autumn; ash seeds as soon as they are ripe, in a sunny situation, the same depth; sycamore, not quite so deep, in dry, sandy soil in April. Elms, maples, pines, larches and firs may also be started in this way. But where only few are needed it is best to procure young trees of a thrifty growth.

Having decided what tree to set, be sure that your soil will suit it. This often varies in a square rod, and if the spot has not properties for holding the tree's roots and yielding them nourishment you must supply them. Thus, if the ground be sandy and too loose, mix it with bog-earth and leaf-mould; if too heavy and close, gravel from the street—chip-dirt from the wood-house.

Trees should be re-set as soon as possible after being taken from their native soil. If the roots get dry, put them in water till thoroughly moistened, and trim off all decayed and broken portions. The surface of turfed ground in which trees are to be set should be cut into sods that are to be replaced afterward. Make the hole at least a foot deeper than the length of the roots, and wide enough to spread them naturally. Throw in at first soil, and then soil mixed with your strongest compost. Place the tree upright upon this. Shovel on the roots sufficient soil to cover them lightly, and then pour in water. Add more soil as it sinks around the roots, and more water, until the tree stands well. Then press the earth with the spade, beat it, and tread it, to make it firm and smooth. The soil ought to lie closely enough to keep the tree in an erect position without any support, but if it sways or begins to lean in a day or two, tie it to a stake. If your land is wet it will be well to place a layer of large stones at the bottom of the hole to serve as a drain.

As to pruning, there will be little need of it if you watch the growth of your trees and rub off all buds that would develop into superfluous branches. The object of pruning is to assist the tree in attaining a natural shape, to give it a strong, stout trunk and symmetrical head. No branches should be cut off that do not interfere with the leading ones, and always before they attain an inch in diameter, or not at all. Use garden shears or a pruning knife—very sharp,—to make a smooth cut that will heal readily. The branches of evergreen trees should be tied in for the winter if in bleak positions to protect them from the frost. They seldom need trimming; if ever, in early summer. Fruit trees should only be pruned in the latter part of May or in June—shade trees, in the autumn.

Among fruit trees, the Apple should be our first choice, because it is most likely to flourish in ordinary garden mould; its fruit is the most valuable as an article of food, the tree is less liable to disease than others, and it lives to a great age—an English author speaks of one over a thousand years old—it frequently yields good crops two hundred years. With all these excellent qualities, it is at times very beautiful; what finer object does nature furnish than an apple tree in full bloom, or in its ripened fruitage? Although the apple is so widely known, and reaches its highest perfection in this country, it is not native to our soil,—there were none here before its settlement by the whites. But it seems well fitted to the climate, has improved so much by its migration and culture here that the once boasted pippins and pearmains of England are outrivalled by the same fruit now exported from New York and Massachusetts.

Apple-trees that yield summer fruit are of more upright form and lighter habit than those that bear fruit for the winter; these have widely-spread branches and dense foliage. In planting a garden it is best to take these matters into consideration. Again, russet apples have more pulp, and therefore are more desirable for cooking; pippins are

most highly flavored; sweet apples, most nutritious. But, as with grapes, we should choose those varieties that have proved remunerative—and most satisfactory in localities similar to that which we intend to occupy. This is a safe rule for a woman to follow. She thus gets all the benefit of the numberless experiments that cost somebody a good deal of time and money. When setting your trees be sure to give them room enough,—apple-trees should be six or eight yards apart; pear, four or five, if standard; dwarf pear trees may be nearer. Remember that they need a plenty of air as well as sun to perfect fruit.

Pears, by their greater delicacy of pulp and flavor, stand higher in estimation of many than apples; but, although healthful, they are wanting in the substantial qualities of that fruit. Still, the cultivation of so many choice varieties upon quince stocks, which from their small size are very convenient for the garden, has brought the pear into very general use. The best way to apply fertilizers to these trees is to spread a generous coating from the compost-heap upon the surface of the ground; this should be done in the autumn. Spring is the best time to set out the new trees. They need air at their roots, and moisture, so the soil must be kept open by stirring it frequently with a fork. To promote this, it is a good plan to raise vegetables in the mould around them. Both apples and pears should be taken from the tree when the fruit-stem separates easily from the branch. They gain higher color and flavor by being placed away from the light and air after gathering. Italy is said to have originated the pear;—the Romans had many varieties, and modern Italy and France excel in the culture of this fruit. The apple is also probably a native of Italy.

Heap wood-ashes around the trunk of apple and pear-trees (a foot high at least) to keep off the borer. Washing the trunk and limbs with whale oil soap-suds, using a stiff brush, prevents the accumulation of moss and destroys small insects. Old trees are much benefitted by scraping their bark and afterward washing. Caterpillars and canker-worms may be prevented in a great measure by surrounding the trunks with small zinc or tin troughs filled with whale oil, or strips of canvass or thick paper frequently tarred. Watch your trees for caterpillar's nests and remove with a brush immediately, or cut off the twigs on which they rest and burn them.

The Peach comes from Persia. This tree has such a delicate nature that it is extremely difficult to keep it thrifty in New England, but in the Middle and Western States it flourishes well. The tree needs a light, rich soil, and a situation sheltered from wintry winds,—yet not so much exposed to the sun as to cause the fruit-buds to open too early in the spring, when there is danger from late frosts. Keep wood-ashes at the base of the tree, for a fertilizer, and also to destroy insects. The peach-tree needs no trimming except to remove decayed branches. The lower limbs produce the most fruit; no matter how low they are, only keep them from injuring the tree by trailing with their weight. Peaches need great care in handling; after gathering, keep them in cotton or soft paper till used. As it is comparatively a small tree, and its fruit of superior beauty—exceedingly agreeable both to the eye and the palate—wherever there is any probability of its flourishing, it should have a place in the garden.

Cherries are of easy culture and generally prolific. They are from Asia Minor, so also are most of our cultivated plums, but there are many wild plums in our Western states that would no doubt well repay careful cultivation. To kill the curculios, that are very injurious to the fruit, some persons shake powdered brimstone, others slaked lime and wood-ashes over the tree, after the fruit is set. Something of the kind should be done three or four times a week for a month. The black knots that form on plum-trees should be cut off with a pruning knife, and spirits of turpentine applied to the wound. If wood-ashes are heaped about the base of the trunk of cherry and plum-trees, through the winter, they grow more healthy. Apricots are an early variety of peach—the name comes from the same root as our word *precocious*. Nectarines, so called from their delicious flavor, in allusion to the drink of the gods, are also a variety of peach. Both, were well-known to the ancients, but are not common with us. Quinces are only suitable for cooking,—if you have low, wet land they will flourish there. Probably every one knows that a seedling fruit-tree is not likely to resemble its parent. The process of budding, or of grafting, by which it is made to produce choice fruit, ought perhaps to be given here, but we have not space; for the same reason many interesting facts relating to fruit-trees and their culture must be omitted.

Of the smaller fruits all gardens should have at least one specimen—either of currants, gooseberries, raspberries, blackberries or strawberries. Mulberries are delicious, but the leaves are of more value as food for the silk worm, so we seldom find the tree in gardens; perhaps, however, on account of its rapid exhaustion of the soil and its enormous size in comparison with its fruit. Gooseberries, either native or English, also currants, are best raised from cuttings. They will flourish trained against a fence,—but yield more abundantly, and ripen their fruit more quickly, if placed where they receive the full benefit of the sun and air, and are trimmed into a tree form; they thus make an elegant appearance. Wood ashes mixed with decayed vegetable matter should be laid upon their roots in the autumn. Raspberries need a rich, loamy soil and a plenty of sun. The bearing stalks should be cut down every two years, and all superfluous suckers removed every spring. Blackberries, as rich, but a moister soil, and sim-

lar treatment. Both these fruits should be trained with bands against a fence or wall, and they, as well as strawberries, need frequent stirring at their roots, and watering after the fruit is set.

The strawberry grows everywhere, and is among the most healthful of fruits. Great attention has been paid to its culture, but, though enormously large berries have been gained, the original flavor cannot be improved. Strawberries should have rich, light soil—a sandy loam with leaf-mould. Set the plants in August about one foot apart, in rows; hoe them frequently, cut off all runners, and keep them free from weeds. It was an old custom to lay straw around the plants to keep down weeds and to prevent the runners from taking root—hence the name *straw*-berry. Cover them with straw, stable litter, or dead leaves, through the winter. Rake these off in the spring, and hoe and water them frequently; keep the soil damp until the fruit is all ripened. The way to provide for a continuance of the strawberry, now brings us to vegetables.

Side by side with strawberries plant a row of beets, carrots, lettuce, radishes, as you please, for family use; and as they are removed, direct runners into their vacant places to form a new strawberry bed for the next year. Make the soil light and fine with fork and rake. Heap it into a narrow ridge, forming it straight by means of the measuring line, and firming the ground with the spade and hoe. Draw a furrow along the top about half an inch deep, and in this scatter the seeds. Beet seeds should be soaked a day before sowing, in cold water; mix sand or dry loam with carrot and lettuce seed, in order to plant them sparingly. If the beets come up too thickly they can be thinned out and the young plants used for greens. Lettuce must be transplanted to form large heads. For radishes make holes half an inch deep, two inches apart, and drop the seeds singly in these; cover them over lightly with soil and smooth the surface,—also the furrow. After the plants are up use the weed-hoe to stir the ground and to keep it clear of weeds till they attain their full growth.

Rings, beds and hills, for other vegetables, may be arranged tastily around and about the young trees and the currant and gooseberry bushes. To make a ring about a tree, wind your measuring-line three-quarters of its length around the trunk; then draw the end thus left straightly towards yourself, and walk slowly around the tree, dragging the stake that is attached to the line through the soil, and you have drawn a circle. Within this mark, shovel mould from without—sufficient to raise it six inches above the walk that is to surround it—pulverize the soil, and firm the edge of the ring as you would a row. Stake out square or oblong beds by means of your measuring line and its stakes, and prepare the soil and finish their edges in the same way. Angular beds you can make by drawing your line from opposite corners of a square; and these may be changed into crescent shape, very easily, with your hoe. To draw a circular bed, drive one stake of your line in the centre of a square whose area will contain the diameter of your bed; wind your line around that stake, leaving just enough to reach the edge of the square; take the other stake and walk and mark the circumference of the circle as you did for the ring mentioned above. Lay out hills by measuring a plot of ground and dividing it equally,—allow a half yard for each hill (melons and cucumbers need hills three or four feet apart—squashes, six;) mark the places and hoe the soil into circular heaps, treading the mould around and between them till it is firm. The hills should be at least a foot higher than the walks. The principal walks through your vegetable garden should be half a yard wide; among your flowers you will want them wider. In making beds, rows, etc., all the soil in the walks adjacent, that was loosened in the spading, should be used, then you have a good foundation left for paths, which ought to be gravelled, and, if possible, rolled.

A few words now about the arrangement of the vegetables, which should be as near the kitchen as possible: Suppose the apple-trees are along two sides of the garden, distant eight yards from each other and two yards from the fence. Between them and against the fence form a row of hills, in which tomatoes may be set supported by stakes or frames, or trained upon the fence. Or, running beans planted, five in each hill, half an inch deep, and poles set for them to climb. In front of these a walk. Then rings around the trees, or rows between them, for bush beans and peas—the lowest, nearest the trees. Around the pear trees the same. Soak peas and beans till the germ bursts its covering; plant them in furrows, two inches apart, half an inch deep; cover them with soil, and press the surface with the spade, or some slight weight. Surrounding the dwarf-pear and other fruit-trees, and currant and gooseberry bushes, narrow beds and rings for sage, thyme, marjoram, savory, parsley, pepper-grass, etc; and walks dividing them from each other. The seeds of these kitchen herbs should be laid in furrows, one third of an inch deep, covered by soil sifted upon them, and then pressed, as for peas and beans. Peas, excepting the dwarf kinds, need a support of frame or sticks.

Soil for the asparagus-bed should have a generous dressing from the compost heap, with salt. It should be thoroughly mixed, and made fine and light. Plant the seed, one-third of an inch deep, in autumn. The stalks will be small the first year; but keep out weeds, cover the bed with stable litter or dead leaves, in the fall, rake it off as soon as the frost is gone, stir the bed carefully, water it with a decoction of salt, water, and soil from the hen-house, and you will soon get good heads—larger and large each year.

Melons, cucumbers, and squashes, need rich, fine soil, and the best situation in the garden, facing the south if possible. Enrich the melon plot from the compost heap, with a good supply of

soot added. Place five seeds in a hill, with a spoonful of guano from the hen-house, cover them with half an inch of soil. Spread straw or brush for the vines to lie upon. If the seeds all start well, take out two plants, three are enough for a hill. Water them freely. If they show few fruitful blossoms pinch off the ends of the shoots. Cultivate cucumbers in the same way. Cucumbers need so much water that if their hills lie in a hollow they do better. Arrange squashes as a screen for the compost heap, by means of stakes or brush for their support. All flat seeds, like those of the squash, should be planted edge-wise. Place seven seeds in a hill, cover them an inch deep, lightly—if they all come up take out two—if the insects do not destroy them, two more. To destroy the "bugs" sift wood-ashes and soot over the plants while the dew lies on them. Some persons make screens of gauze, strainer cloth, or paper for all these vegetables, to keep off insects.

Rhubarb is generally raised from a division of the root. Cover it with stable litter through the winter. Stir the soil around it early in the spring. Place a headless barrel over it to make the stalks grow long and to lessen their acidity. Water it freely till August—keep it dry after then.

Sow cabbages in boxes, then transplant into light soil mixed with wood-ashes. Make a hole over an inch square, place the plant, fill in water, then cover all but two leaves with soil. Set them two feet apart. After they begin to grow stir the ground around them very frequently. Sow turnips after radishes and early peas and beans are gone,—spading over the soil and adding ashes. It is said that black pepper sifted over cabbages and turnips will destroy insects. Parsnips, plant early, in rich soil, in rows, half an inch deep. Onions require a sandy soil mixed with ashes,—and hen-guano is a good addition—sow as parsnips. Keep them clear of weeds. Start peppers and tomatoes in the house, in boxes, early in February;—set in soil enriched as for onions, in May. Give them plenty of water. Raise horseradish from pieces of the root in rich, damp soil;—in the spring, after using the larger part, re-set the slim end. Cover it with ashes through the winter.

Don't attempt to raise corn or potatoes unless you have plenty of room and sunshine. Both need light, sandy loam. Soak corn (use only the sweet) three or four days before planting, in cold water; put four kernels in a hill, cover with half inch of soil. Potatoes do not depend so much on sun but they want a sheltered spot. They need hoeing two or three times, as also corn. This is such hard work for women that the new method of raising potatoes is best for them to try. For this prepare a bed. Take out the soil to the depth of six inches; spade over the subsoil, spread upon it two or three inches of hay or straw, cut potatoes so that three eyes are in each piece, lay these pieces on the straw, eight inches apart, cover over with two inches of soil. Pull up what weeds appear, water the bed occasionally, and loosen the soil with a rake. This is called the French method—it has proved successful with many. Spinach, for spring use, sow in rows, in the fall, where potatoes have been; and cover with straw through the cold weather. Dandelions, transplant from the meadows to rich soil in a sheltered place; to increase, sow the seed in the autumn, or divide the roots.

[The next chapter, treating of Garden Flowers, etc., will conclude the author's remarks upon this subject.]

A HOUSEKEEPER'S STRICTURES ON "DOMESTIC ECONOMY."

Mr. Editor, or Miss Hale, the author of "Domestic Economy":—Do you mean all mothers, or "women," to follow your advice given in your articles? Or do you mean such mothers as have time to do it? For although a "stitch in time saves nine," it requires a goodly share of the time allotted to woman's daily work, not mentioning her time of sleep, which she ought to have and certainly needs after her busy day's work. Few mothers who do their own work, and have the whole care of children, husband and hired man or men, find many days but what are busy ones, and need certainly from 11 o'clock until 5 in the morn to sleep what they can. But, between caring for baby, and keeping Charlie and Susie covered up, &c., bedtime would find the mother up much later than 11 o'clock, if she followed all the rules in "Domestic Economy."

Now, I don't mean to say that the rules are not good ones, most of them at least, but I do think some of them are more particular than wise. I, for one, have tried the washing and turning of old coats and pants which father has worn threadbare, and have taken pains and care to cut over and fit nicely, and have had hard work to get out the article required from anything which seemed fit to use, with an inward feeling all the time that my time, lining and thread were not being spent profitably, and which proved to be the case when Charley or Frank came to wear the garment, even if he was no more than four or six years of age—for such are by all means, or we want them to be, busy bodies, for we none of us want "dead heads" around us in the shape of children,—for after a few days of rough and tumble, we find knees and elbows out, ready for patching, and many times nothing left of the garment to patch with—which will not pay for the work any more than the garment paid for making. I think such articles are better in a carpet or given to the poor, and some new material, even of a coarse and rather ugly looking surface if need be, bought and made, and when finished, and while being made, the mother can breathe freer and feel when it is done, even if she have to take time out of sleeping hours to make it, that one more load is lifted from her shoulders. One of the flock is rigged out for a

while, and she won't have to be watching for rents and rips, and buttons off, and button-holes tearing out, really because the cloth had not strength enough to hold itself together.

The stocking heels and toes are recommended to be lined nicely with leather or kid, or good strong cloth, and ripped off and sewed every week. I find knitting a new toe and heel, now and then, saves me more time and is quicker done, than the other way. Although the sewing on of cloth I approve, yet I find a double heel, when the stocking is knit, answers all purposes for me. Many other things, too numerous to mention here, such as have time and think it profitable, would of course approve.

I am not one that sustains the Woman's Rights excitement, only so far as looks reasonable. I do think if a farmer, or man of any other occupation, would look as much to the good of his wife as he does to his stock of cattle, or a nice horse to drive —for but few men like a lame, poor, rough-looking animal to drive off out of town—there would be less poor, sickly, suffering looking wives and mothers. A man gets up before breakfast,—goes out doors, gets the fresh air, comes in all right and hungry for his meal. His wife, who, perhaps, has sat up and worked the night before, two or three hours after her liege-lord was in bed and asleep, then has had to nurse a fretful babe all night, or get up from one to five times to see to croupy Susie, and then must be up betimes in the morning, with weary head and bones, hurrying to get breakfast and dress baby and the other little ones. Breakfast ready, husband comes in, hurrying it on the table, not even helping the little one into his high chair—mother must do it all, and be round in time to pour out coffee, and fix the little ones' breakfasts, too, which "father" can never spend time from eating to do. By this time, husband's coffee is out and needs replenishing, then the hired man's, and by this time, baby finds out she won't lie in the cradle any longer, and Charlie and Susie have cleared their plates and want more. Mother has not had a breath of fresh air, or a mouthful to eat, yet—husband is done by this time, gets up and says, while buttoning up his coat, "Wife, I expect some men here to-day, to look at them South Downs and Devonshires, they will be here to dinner, probably. Fix up something nice. I must ride over to town an hour or two—if they should come before I get back, entertain them 'some how,'" and the master is off to another airing, gets braced up, cheered up, sees folks and country, talks, and comes back all right. Where is mother all the time? Hurrying through her breakfast, she hurries all the forenoon to get tidied up, and prepare a good dinner—she neglects baby—which frets her, hearing it cry —gets up her dinner for those out of town men, and so another meal goes by, and so goes day by day.

Does her husband ever think of these things, when he wonders Susan grows old so much faster than he does, and looks so poor and yellow, and is getting almost ashamed of her? Does he think of the times he has hatched up excuses for not carrying her home, or out to Uncle John's, or somewhere to spend the day, and give her an airing and put a flush on her sallow cheek? Oh, husbands and fathers, I wish too many of you that are just such husbands could be made to change places with that patient wife of yours, before you are brought up suddenly, finding your children motherless. Your second wife, if she looks better than the last has, for a while, will not fill her place to your children, or take more pains to shield you from cares.

Where is such a mother's time to follow all the rules in "Domestic Economy?" Every one knows our land is filled with just such mothers and wives.

One thing more, Mr. Editor,—please send in a petition to the Legislature that mop and broom handles shall be made as smooth as men's hoe or spade handles, or the makers shall pay a fine. Just look at our broom handles—left just as they are turned, and rough, and splintered and scraggly enough to keep our hands chapped and sore constantly. This I call one of Woman's Rights—don't you, Mr. Editor? SUSAN.

No. Ferrisburg, Vt., March 4, 1868.

REMARKS.—We can only say that we are in full sympathy with the overburdened wives and mothers whose daily routine our correspondent so graphically describes. We heartily advocate any improvement which can lighten their labor, and, by expediting their household work, increase their leisure time for self-improvement, for neighborly calls, or for more than occasional breaths of that life-giving air which their husbands so plentifully draw into their lungs in their daily out-door employment.

As regards the broom-handles, competition in cheapness is very apt to cause carelessness in finishing; but a little sand-paper will smooth down the rough places, if not inexcusably bad, and a little care in buying the broom, on the part of the husband, who generally looks out for the household furnishing, should spare his wife that annoyance, at least. Let the husbands look out for *the little things*—for they are what render life happy or miserable. ED.